APPENDIX 5

Dr. Frank Fronczak

Direct Examination

May 9, 2017

Dr. Frank Fronczak

Education and Training

B.S. General Engineering
(1972) University of Illinois at Urbana-Champaign

M.S., Theoretical & Applied Mechanics
(1974) University of Illinois at Urbana-Champaign

Doctor of Engineering
(1977) University of Kansas

NASA
Engineer

Dr. Frank Fronczak

Employment

Johnson & Johnson	Johnson & Johnson Co. *Engineer*
Clark Dietz	Clark, Deitz & Associates *Project Engineer*
USDA	U.S. Department of Agriculture *Engineer*
	University of Wisconsin – Madison *Professor of Mechanical Engineering*

Dr. Frank Fronczak

Achievements

- Published over 100 papers, articles, and technical presentations
- Inventor on 8 United States patents or patent applications
- Awards received:
  - USDA Superior Service Award
  - SAE Fellow
  - Benjamin Smith Reynolds Award
  - U.W. Teaching Academy

No Infringement
Asserted Claims: '579 Patent – Claim 1

1. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:	
a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;	
the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;	
each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;	X
the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening external thereto,	
each said at least one slot having a first section configured to engage the force transfer element of one said at least one grinning element,	
such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide.	

No Infringement
Asserted Claims: ‘579 Patent – Claim 9

9. The gripping tool as recited in claim 1, wherein the gripping portion and actuation portion circumferentially engage the workpiece.	X

No Infringement
Asserted Claims: '579 Patent – Claim 16

16. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:	
a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;	
the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;	
each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;	X
the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening,	
each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element,	
such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide;	
wherein movement of the at least one gripping element in curvilinear.	

No Infringement
Asserted Claims: ‘470 Patent – Claim 1

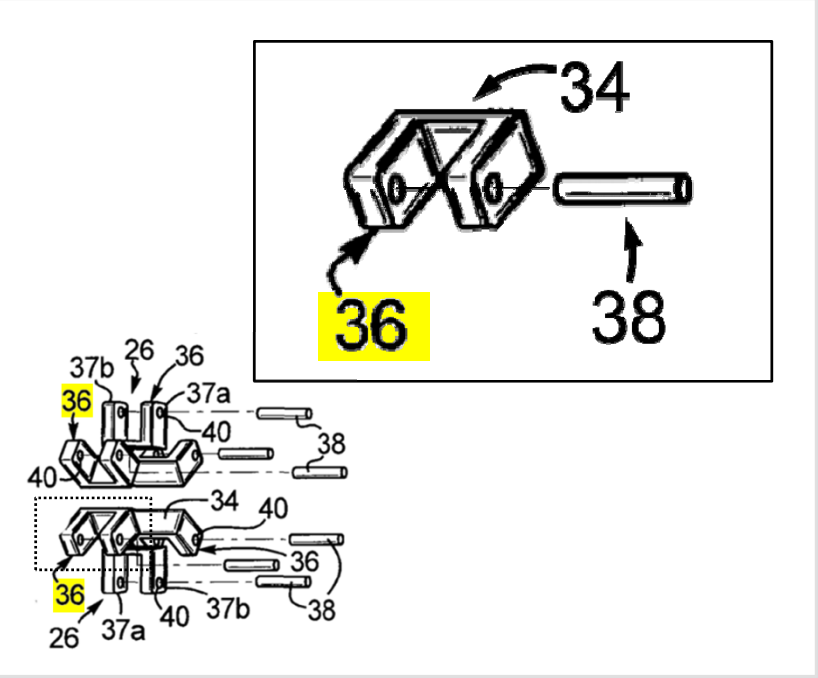
1. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:	
(a) a first element and a second element connected for relative movement which generates movement of at least one gripping element;	
(b) the first element including a gripping portion configured to engage the work piece including at least one guide defined in the gripping portion and said at least one gripping element;	
(c) each at least one gripping element including a body portion adapted for engaging the work piece, an arm portion configured to engage one said at least one guide and a force transfer element contiguous with the arm portion;	X
(d) the second element including an actuation portion having at least one slot therein,	
each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element,	
such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one grip ping element along respective said at least one guide,	
wherein the first element further includes at least one aligning element such that each said at least one aligning element is disposed between an adjacent pair of guides and extends parallel to the force transfer elements.	X

No Infringement
Asserted Claims: ‘470 Patent – Claim 9

9. The gripping tool as recited in claim 1, wherein movement of said at least one gripping element is curvilinear.	X

Arm and Body Portions

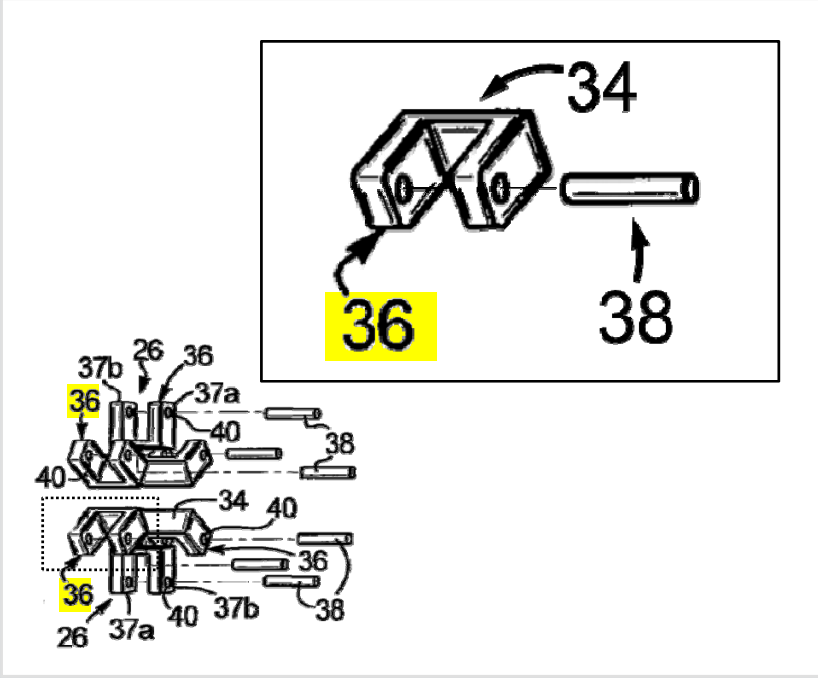
‘470 Patent, Fig. 1



The gripping elements each include a body portion **34** adapted for engaging the work piece, an arm portion **36** configured to engage one of the guides **32** and a force transfer element **38** contiguous with or preferably connected to the arm portion **36**.

‘470 Pat. at Col. 5, Ln. 25-29

‘579 Patent, Fig. 1

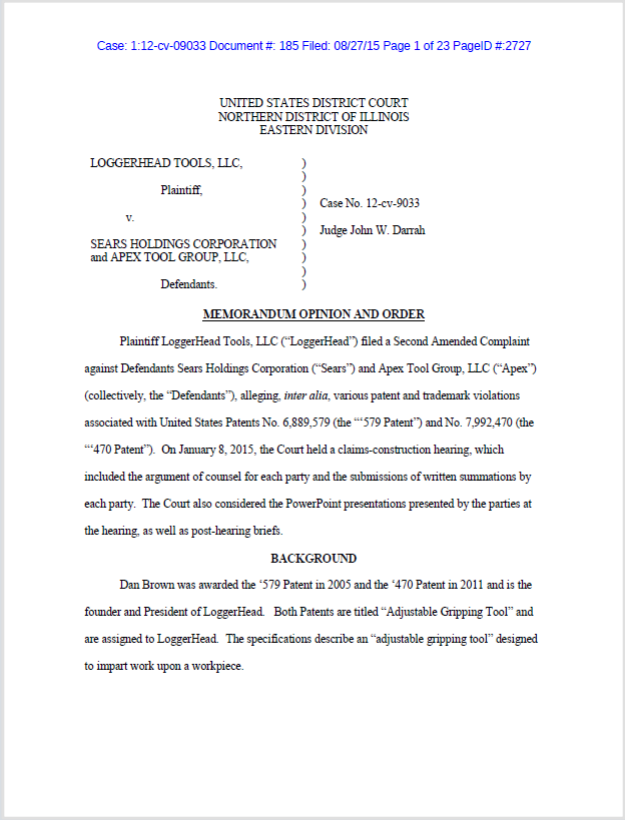


The gripping elements each include a body portion **34** adapted for engaging the workpiece, an arm portion **36** configured to engage one of the guides **32** and a force transfer element **38** connected to the arm portion **36**.

‘579 Pat. at Col. 4, Ln. 5-9

Claim Construction

Memorandum Opinion and Order



Case: 1:12-cv-09033 Document #: 185 Filed: 08/27/15 Page 1 of 23 PageID #:2727

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

LOGGERHEAD TOOLS, LLC,

Plaintiff,

v.

SEARS HOLDINGS CORPORATION and APEX TOOL GROUP, LLC,

Defendants.

Case No. 12-cv-9033

Judge John W. Darrah

MEMORANDUM OPINION AND ORDER

Plaintiff LoggerHead Tools, LLC ("LoggerHead") filed a Second Amended Complaint against Defendants Sears Holdings Corporation ("Sears") and Apex Tool Group, LLC ("Apex") (collectively, the "Defendants"), alleging, *inter alia*, various patent and trademark violations associated with United States Patents No. 6,889,579 (the "'579 Patent") and No. 7,992,470 (the "'470 Patent"). On January 8, 2015, the Court held a claims-construction hearing, which included the argument of counsel for each party and the submissions of written summations by each party. The Court also considered the PowerPoint presentations presented by the parties at the hearing, as well as post-hearing briefs.

BACKGROUND

Dan Brown was awarded the '579 Patent in 2005 and the '470 Patent in 2011 and is the founder and President of LoggerHead. Both Patents are titled "Adjustable Gripping Tool" and are assigned to LoggerHead. The specifications describe an "adjustable gripping tool" designed to impart work upon a workpiece.

"arm portion"

portion of a gripping element(s) configured to engage one of the guides and contiguous with a force transfer element

at 22

"body portion"

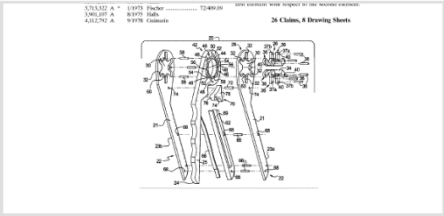
portion of a gripping element(s) adapted for engaging a workpiece

at 22

Arm and Body Portions

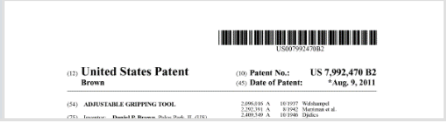
‘579 Patent

each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;

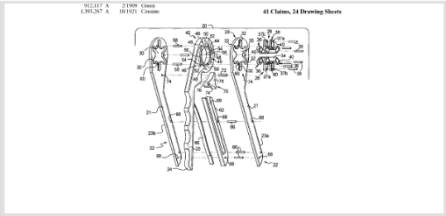


‘579 Pat. at Col. 8, Ln. 58-62

‘470 Patent



(c) each at least one gripping element including a body portion adapted for engaging the work piece, an arm portion configured to engage one said at least one guide and a force transfer element contiguous with the arm portion;



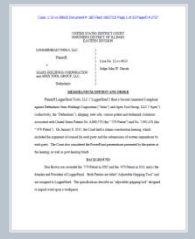
‘470 Pat. at Col. 18, Ln. 43-47

“arm portion”

portion of a gripping element(s) configured to engage one of the guides and contiguous with a force transfer element

at 22

Memorandum Opinion and Order



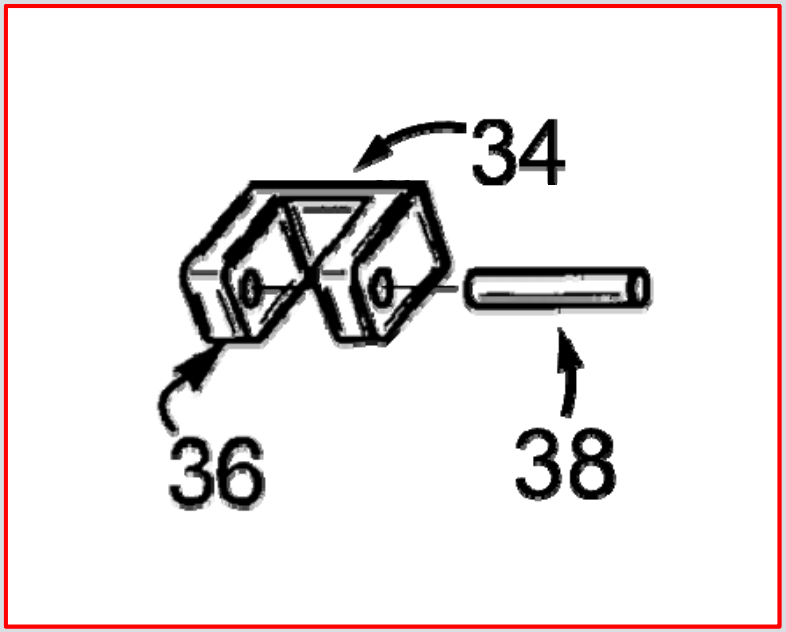
“body portion”

portion of a gripping element(s) adapted for engaging a workpiece

at 22

Max Axess Locking Wrench Gripping Element

Loggerhead (ARM)



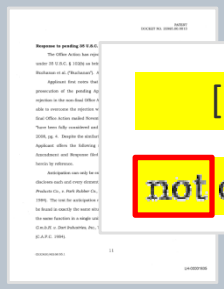
'470 Pat., Fig. 1 [Excerpt]

Max Axess Locking Wrench Gripping Element

MALW

Arm and Body Portions – Loggerhead's Statement

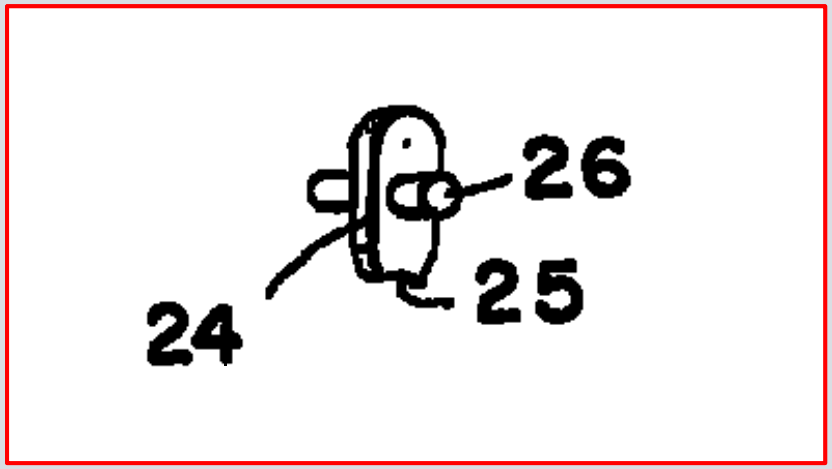
Response to Pending 35 U.S.C § 102(b) Rejection



[Loggerhead] respectfully submits that Buchanan's gripping element does not contain an arm portion.

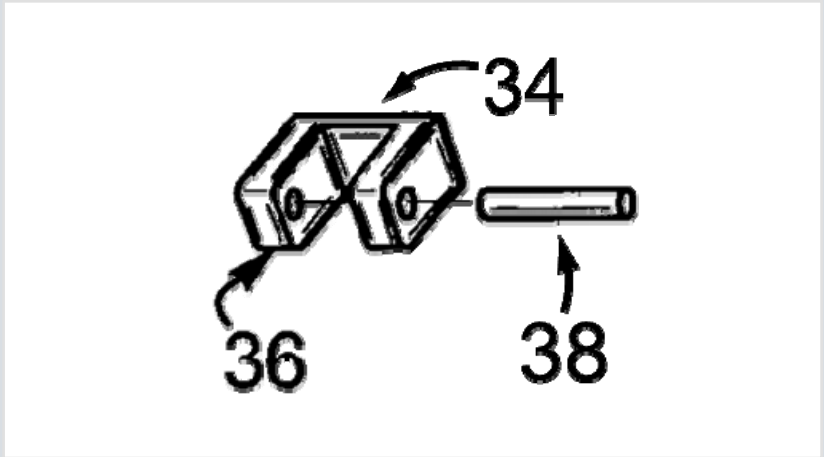
DTX 73

Buchanan (No Arm)



'925 Pat., Fig. 4

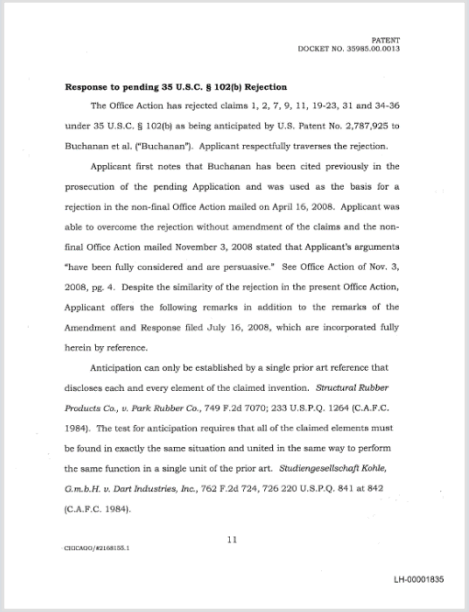
Loggerhead (Arm)



'470 Pat., Fig. 1 [Excerpt]

Arm and Body Portions – Loggerhead's Statement

Response to Pending
35 U.S.C § 102(b) Rejection



PATENT
DOCKET NO. 35985.00.0013

Response to pending 35 U.S.C. § 102(b) Rejection

The Office Action has rejected claims 1, 2, 7, 9, 11, 19-23, 31 and 34-36 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 2,787,925 to Buchanan et al. ("Buchanan"). Applicant respectfully traverses the rejection.

Applicant first notes that Buchanan has been cited previously in the prosecution of the pending Application and was used as the basis for a rejection in the non-final Office Action mailed on April 16, 2008. Applicant was able to overcome the rejection without amendment of the claims and the non-final Office Action mailed November 3, 2008 stated that Applicant's arguments "have been fully considered and are persuasive." See Office Action of Nov. 3, 2008, pg. 4. Despite the similarity of the rejection in the present Office Action, Applicant offers the following remarks in addition to the remarks of the Amendment and Response filed July 16, 2008, which are incorporated fully herein by reference.

Anticipation can only be established by a single prior art reference that discloses each and every element of the claimed invention. *Structural Rubber Products Co., v. Park Rubber Co.*, 749 F.2d 7070; 233 U.S.P.Q. 1264 (C.A.F.C. 1984). The test for anticipation requires that all of the claimed elements must be found in exactly the same situation and united in the same way to perform the same function in a single unit of the prior art. *Studiengesellschaft Kohle, G.m.b.H. v. Dart Industries, Inc.*, 762 F.2d 724, 726 220 U.S.P.Q. 841 at 842 (C.A.F.C. 1984).

11

CHICAGO/#2168155.1

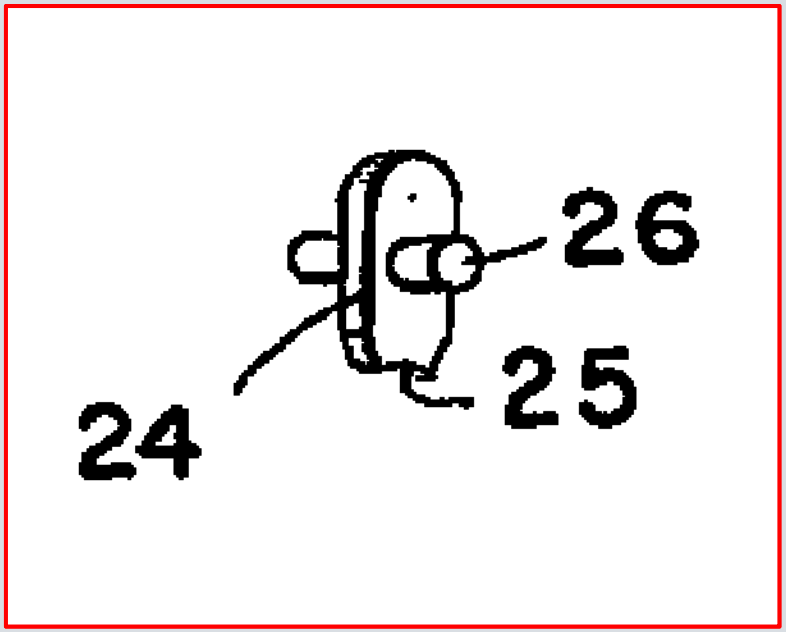
LH-00001835

Applicant respectfully submits that Buchanan's gripping element does not contain an arm portion. Instead, the force transfer element (i.e., pin 26) of Buchanan is directly attached to the body portion. In contrast, as shown in the partial reproduction of Applicant's FIG. 1 above, the claimed subject matter requires, among other things, a gripping element 26 that includes a body portion 34, a force transfer element 38, and an arm portion 36. Furthermore, claim 1, for example, requires that the "force transfer element [is] contiguous with the arm portion." The force transfer element 26 of Buchanan, as best understood, however, is contiguous with the body, not an arm portion because Buchanan does not teach or suggest an arm portion.

DTX 73 (LH-00001837)

Max Axess Locking Wrench Gripping Element

Buchanan (NO ARM)



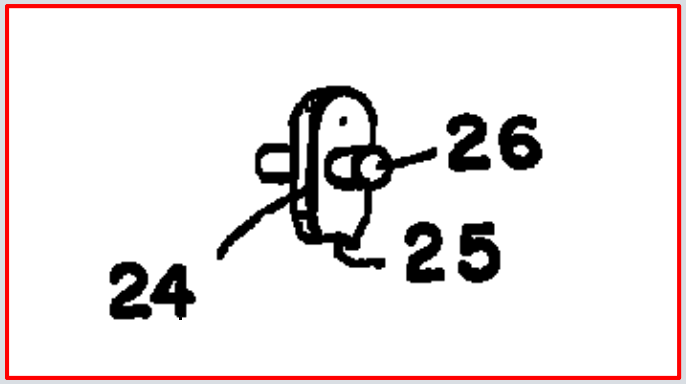
'925 Pat., Fig. 4

Max Axess Locking Wrench Gripping Element

MALW

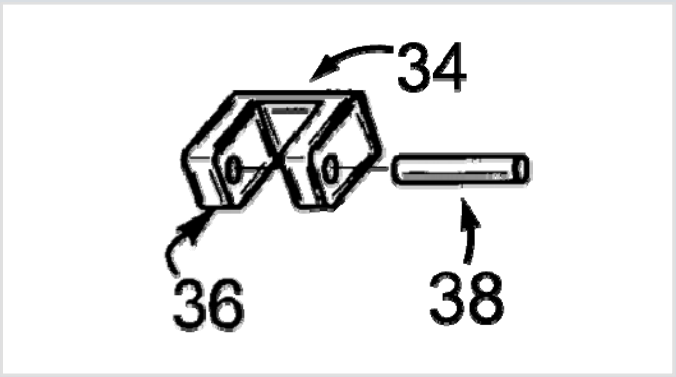
Max Axess Locking Wrench Gripping Element

Buchanan (NO ARM)



'925 Pat., Fig. 4

Loggerhead (ARM)



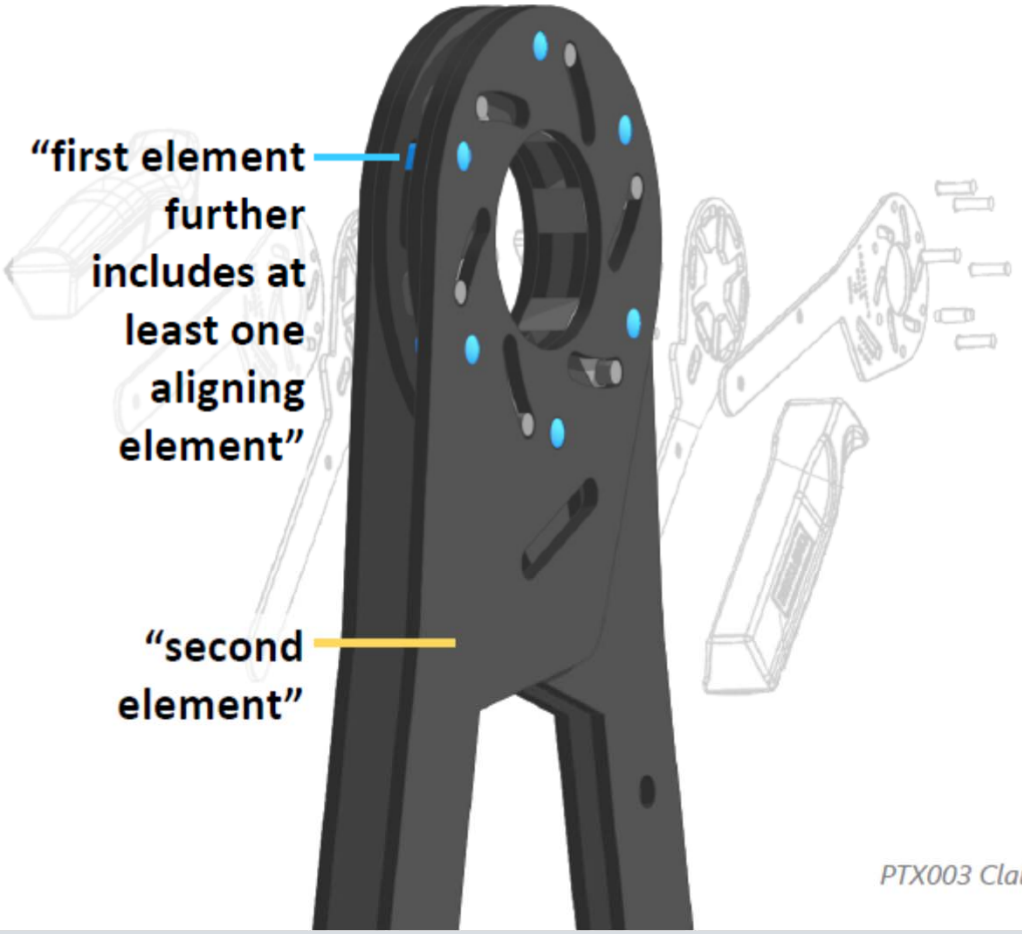
'470 Pat., Fig. 1 [Excerpt]

Max Axess Locking Wrench Gripping Element

MALW

No Infringement
Asserted Claims: '470 Patent – Claims 1 & 9

PTX 51 Max Axess Locking Wrench **and Claim 1, '470 Patent**



1. An adjustable gripping tool for engaging a work piece to impart work thereto, the tool comprising:

(a) a first element and a second element connected for relative movement which generates movement of at least one gripping element;

(b) the first element including a gripping portion configured to engage the work piece including at least one guide defined in the gripping portion and said at least one gripping element;

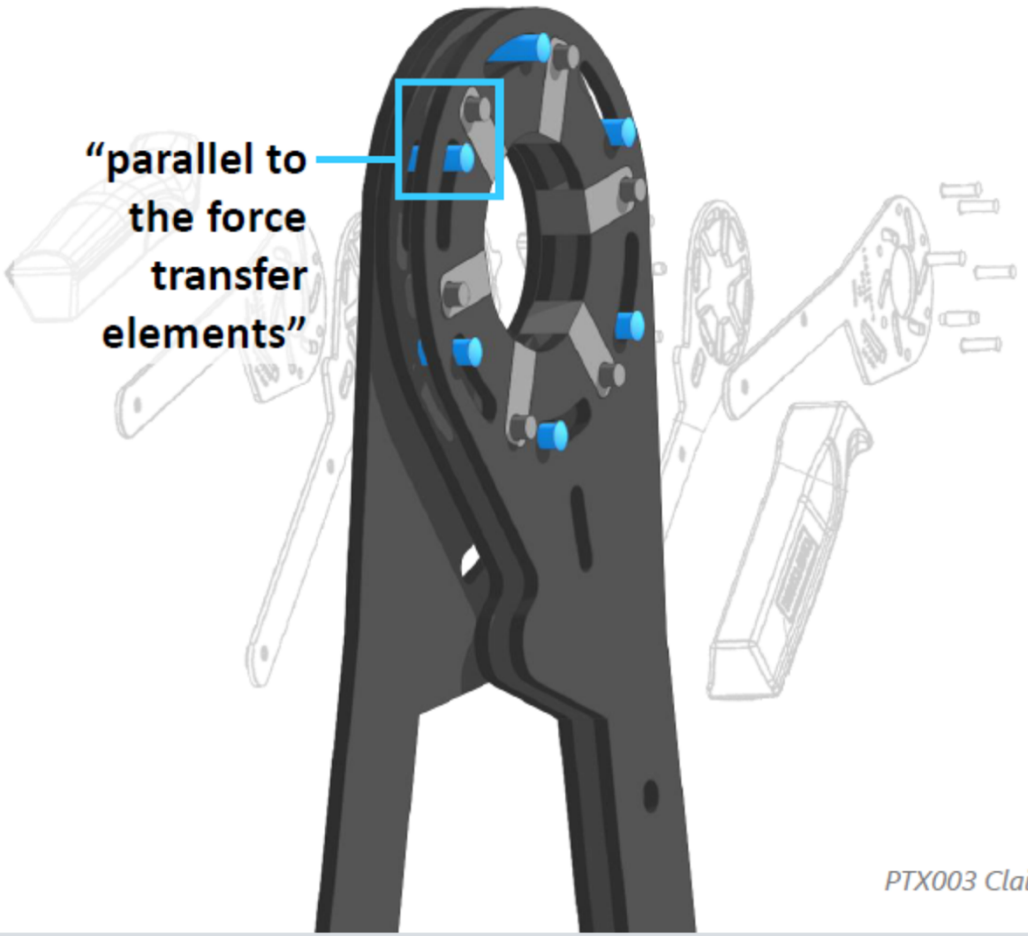
(c) each at least one gripping element including a body portion adapted for engaging the work piece, an arm portion configured to engage one said at least one guide and a force transfer element contiguous with the arm portion;

(d) the second element including an actuation portion having at least one slot therein, each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element, such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide, wherein the first element further includes at least one aligning element such that each said at least one aligning element is disposed between an adjacent pair of guides and extends parallel to the force transfer elements.

PTX003 Claim 1

No Infringement
Asserted Claims: '470 Patent – Claims 1 & 9

PTX 51 Max Axess Locking Wrench **and Claim 1, '470 Patent**



1. An adjustable gripping tool for engaging a work piece to impart work thereto, the tool comprising:

(a) a first element and a second element connected for relative movement which generates movement of at least one gripping element;

(b) the first element including a gripping portion configured to engage the work piece including at least one guide defined in the gripping portion and said at least one gripping element;

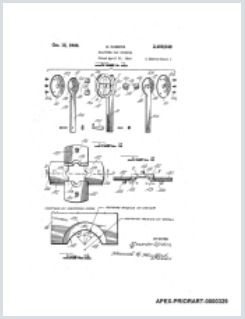
(c) each at least one gripping element including a body portion adapted for engaging the work piece, an arm portion configured to engage one said at least one guide and a force transfer element contiguous with the arm portion;

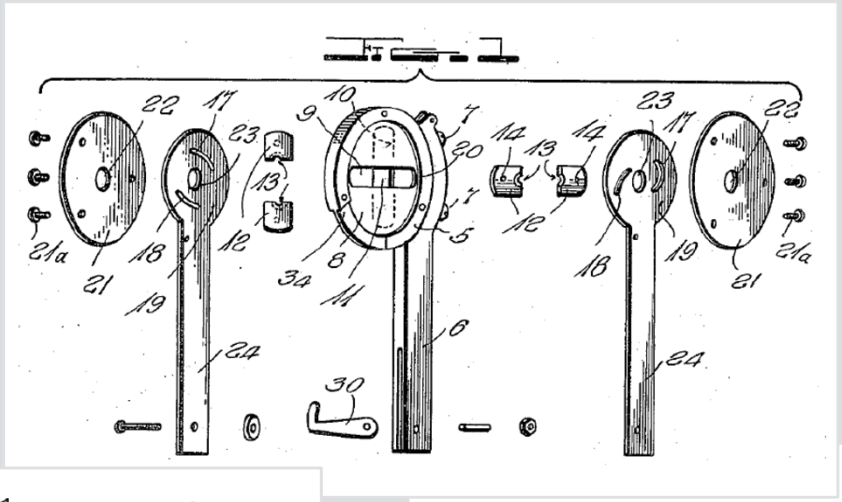
(d) the second element including an actuation portion having at least one slot therein, each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element, such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide, wherein the first element further includes at least one aligning element such that each said at least one aligning element is disposed between an adjacent pair of guides and extends parallel to the force transfer elements.

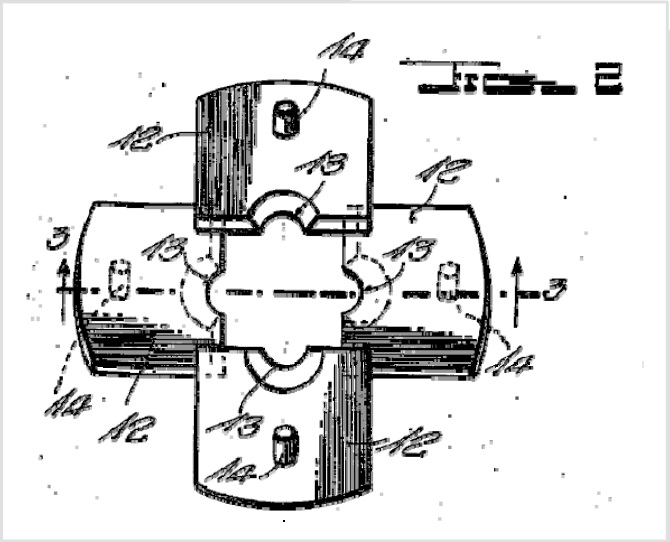
PTX003 Claim 1

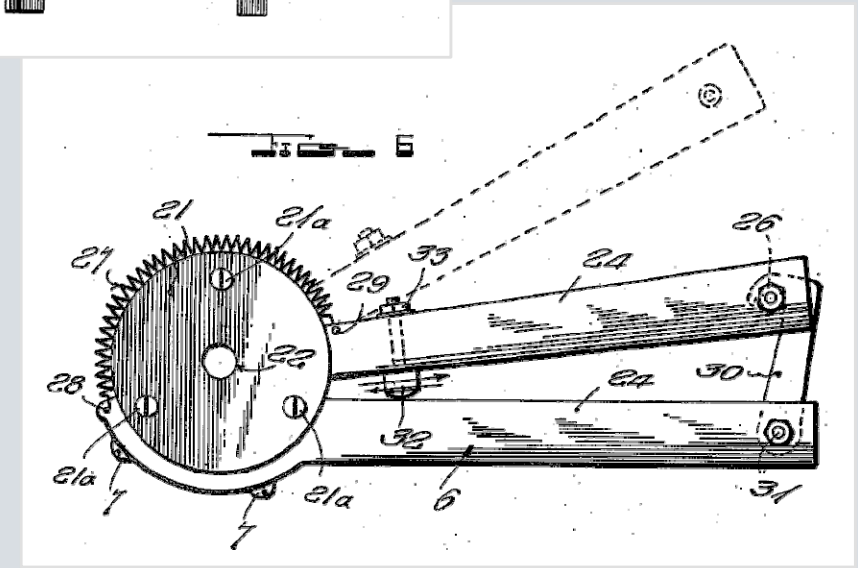
State of the Art

‘549 Patent (Djidics)
1946





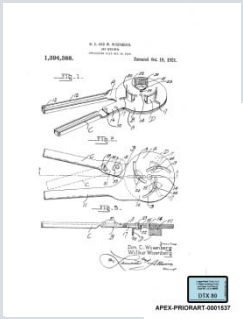


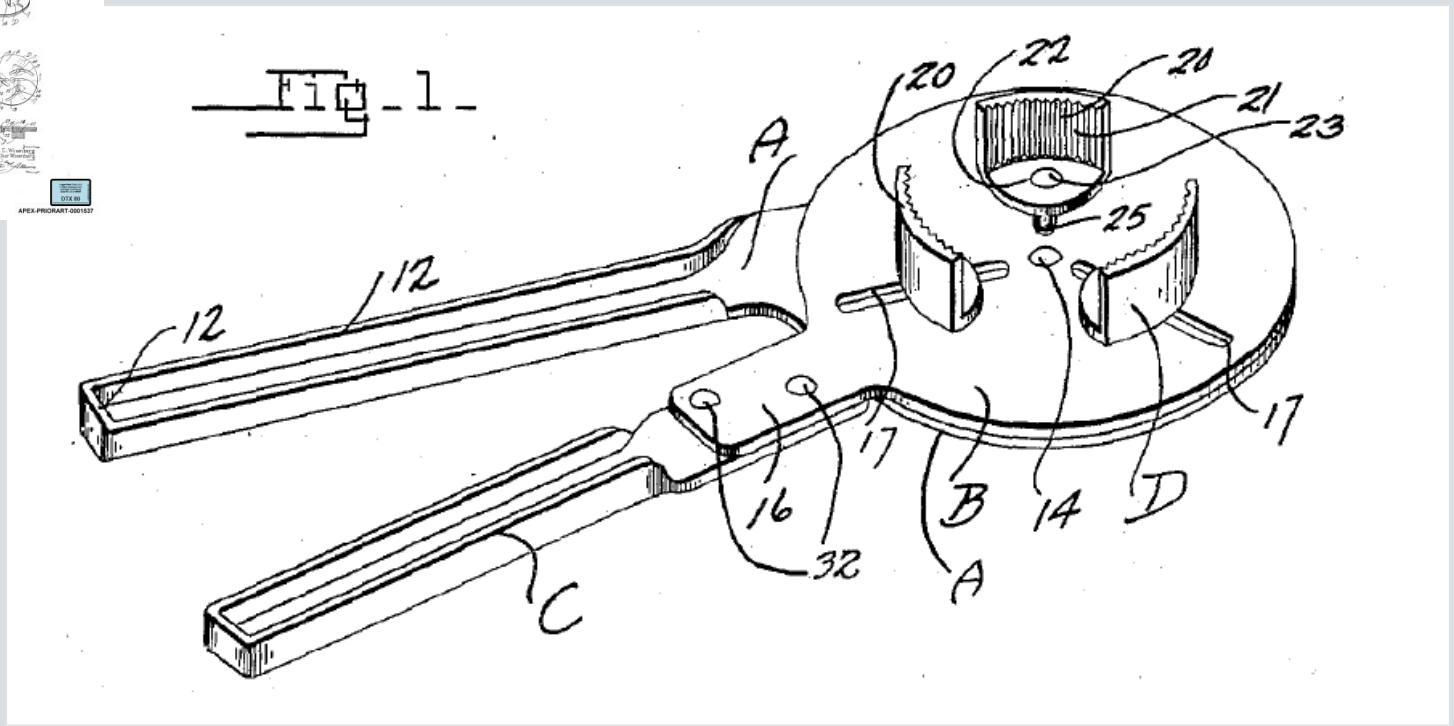


DTX 76

State of the Art

‘549 Patent (Wisenburg)
1921

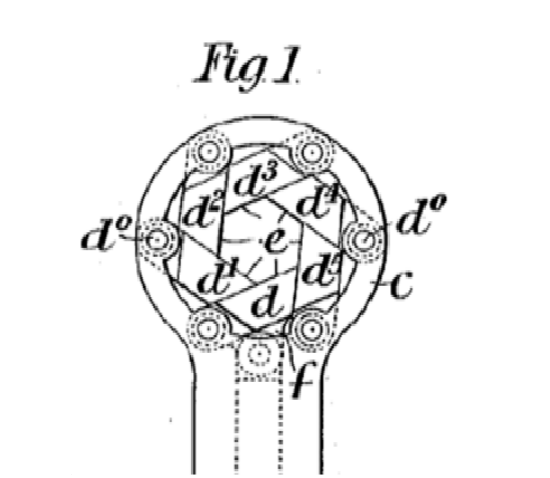




DTX 80

Brown Not First to Use Shutter

‘837 Patent (Harris)
March 1, 1898



DTX 77

‘263 Patent (Whitesell)
November 16, 1993

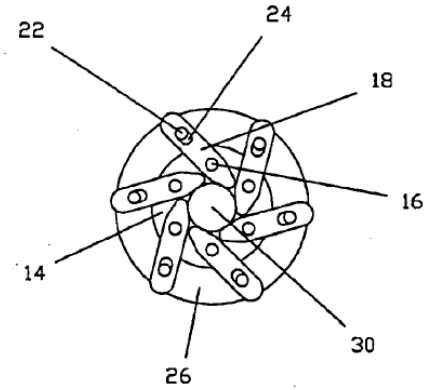
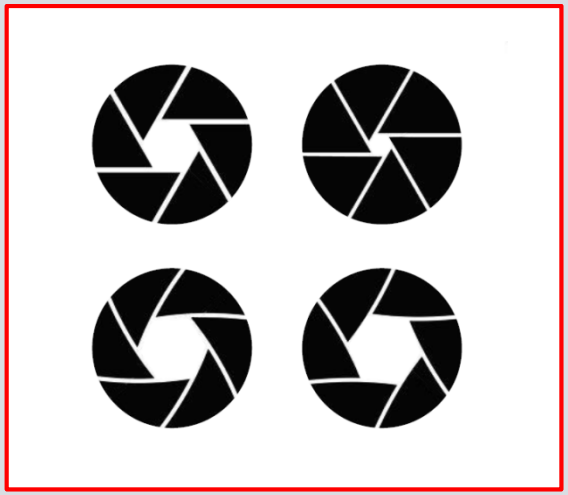


Figure 2

DTX 88

Brown
2004



Buchanan Patent Prior Invention

‘579 Patent

US006889579B1

(12) **United States Patent**
Brown

(10) **Patent No.: US 6,889,579 B1**
(45) **Date of Patent: May 10, 2005**

(54) **ADJUSTABLE GRIPPING TOOL**

(75) Inventor: **Daniel P. Brown**, Palos Park, IL (US)

(73) Assignee: **Loggerhead Tools LLC**, Palos Park, IL (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **10/763,489**

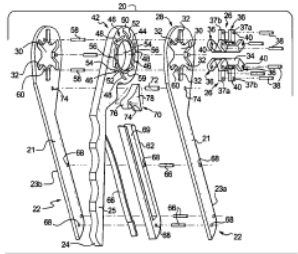
(22) Filed: **Jan. 23, 2004**

(51) Int. Cl.[7] **B25B 13/28**
(52) U.S. Cl. **81/90.2**; 81/58; 81/90.1

United States Patent
Brown

Patent No.: US 6,889,579 B1
Date of Patent: May 10, 2005

Filed: **Jan. 23, 2004**

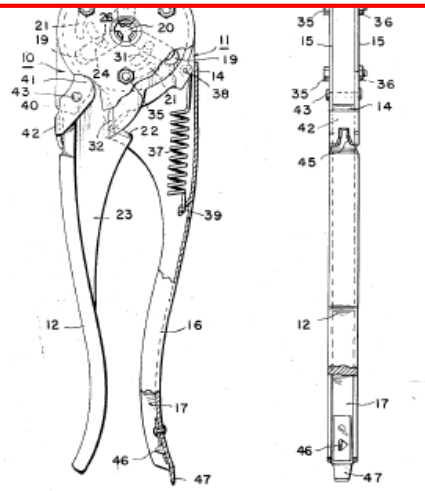


Buchanan Prior Invention

April 9, 1957 S. N. BUCHANAN ET AL 2,787,925
WIRE CRIMPING TOOL WITH CAM-SLOT ACTUATING MEANS

April 9, 1957 **S. N. BUCHANAN ET AL** **2,787,925**
WIRE CRIMPING TOOL WITH CAM-SLOT ACTUATING MEANS

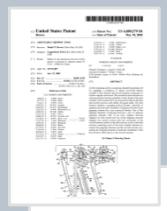
Filed June 8, 1954



INVENTORS
STEPHEN N. BUCHANAN,
& DANIEL B. KUSIV
BY Wenderoth, Lind & Ponack
ATTORNEYS

DTX 75

Buchanan Patent Prior Invention



‘579 Patent – Claim 1

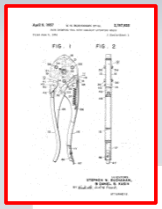
1. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:

a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;

the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;

each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;

the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening external thereto, each said at least one slot having a first section configured to engage the force transfer element of one said at least one grinning element, such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide.



Buchanan Prior Invention

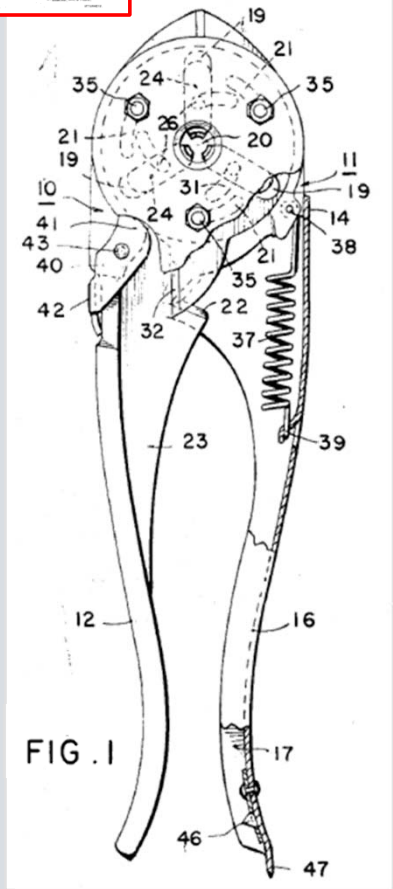


FIG. 1

The present invention relates to a multifunctional tool, more especially adapted for use in the insulated electrical wire art.

‘925 Pat. at Col. 1, Ln. 14-16

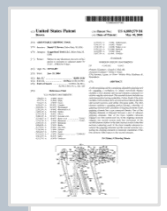
It is a further object of this invention to provide an improved crimper capable of providing effective pressure over considerable area….

‘925 Pat. at Col. 1, Ln. 36-38

Invalidity
Asserted Claims: ‘579 Patent – Claim 1

1. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:	✓
a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;	
the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;	
each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;	
the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening external thereto,	
each said at least one slot having a first section configured to engage the force transfer element of one said at least one grinning element,	
such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide.	

Buchanan Patent Prior Invention



‘579 Patent – Claim 1

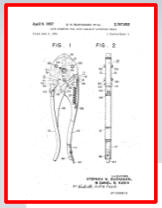
1. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:

a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;

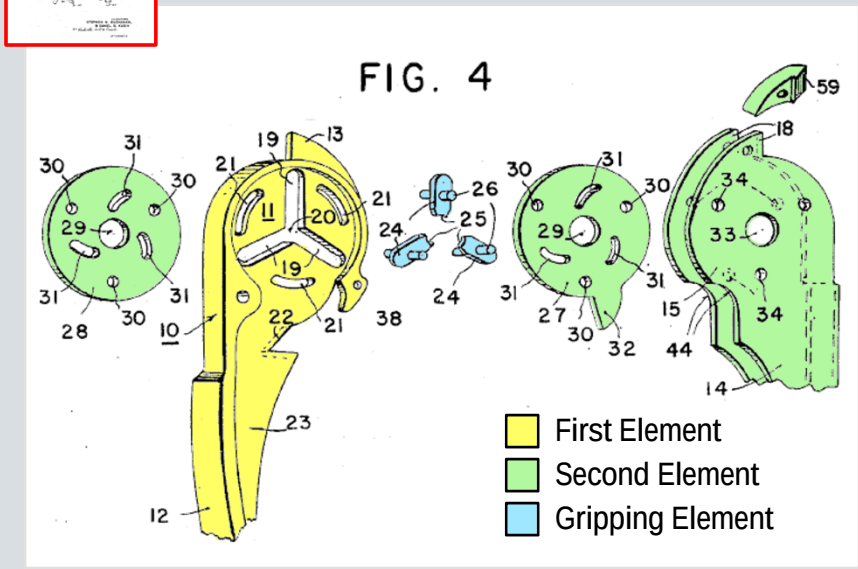
the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;

each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;

the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening external thereto, each said at least one slot having a first section configured to engage the force transfer element of one said at least one grinning element, such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide.



Buchanan Prior Invention



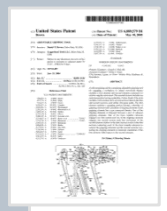
second element:

a second grasping portion containing an opening concentric with an opening within one end of a first element, and an actuation portion, and at least one slot defined within one end of the second grasping portion

Invalidity
Asserted Claims: '579 Patent – Claim 1

1. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:	✓
a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;	✓
the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;	
each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;	
the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening external thereto,	
each said at least one slot having a first section configured to engage the force transfer element of one said at least one grinning element,	
such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide.	

Buchanan Patent Prior Invention



‘579 Patent – Claim 1

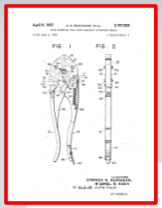
1. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:

a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;

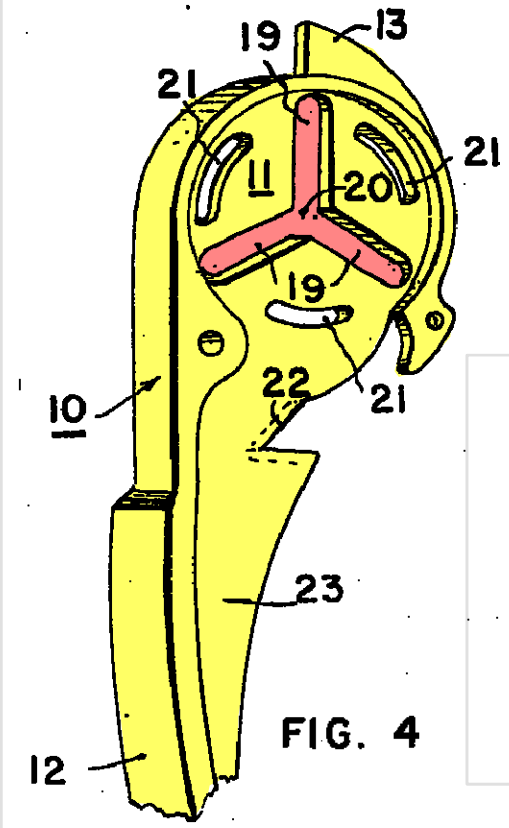
the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;

each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;

the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening external thereto, each said at least one slot having a first section configured to engage the force transfer element of one said at least one grinning element, such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide.



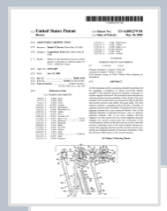
Buchanan Prior Invention



Invalidity
Asserted Claims: ‘579 Patent – Claim 1

1. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:	✓
a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;	✓
the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;	✓
each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;	
the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening external thereto,	
each said at least one slot having a first section configured to engage the force transfer element of one said at least one grinning element,	
such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide.	

Buchanan Patent Prior Invention



‘579 Patent – Claim 1

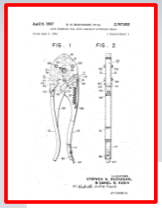
1. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:

a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;

the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;

each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;

the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening external thereto, each said at least one slot having a first section configured to engage the force transfer element of one said at least one grinning element, such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide.



Buchanan Prior Invention

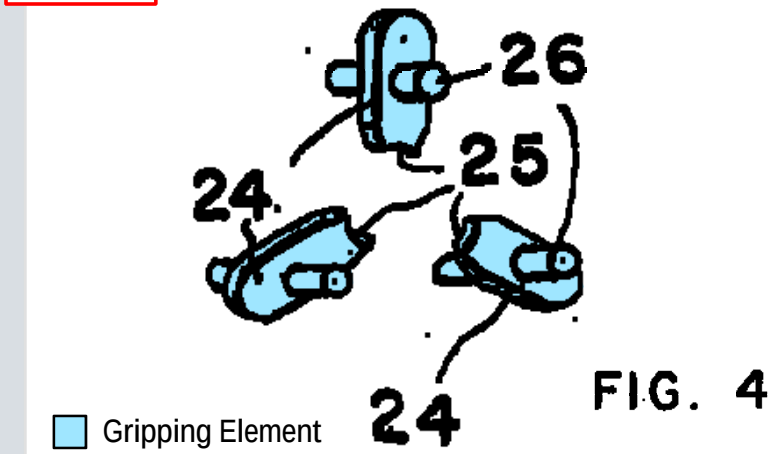
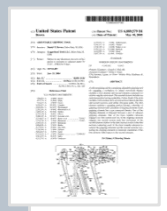


FIG. 4

Invalidity
Asserted Claims: '579 Patent – Claim 1

1. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:	✓
a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;	✓
the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;	✓
each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;	
the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening external thereto,	
each said at least one slot having a first section configured to engage the force transfer element of one said at least one grinning element,	
such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide.	

Buchanan Patent Prior Invention



‘579 Patent – Claim 1

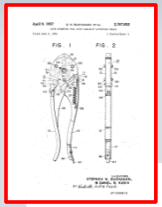
1. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:

a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;

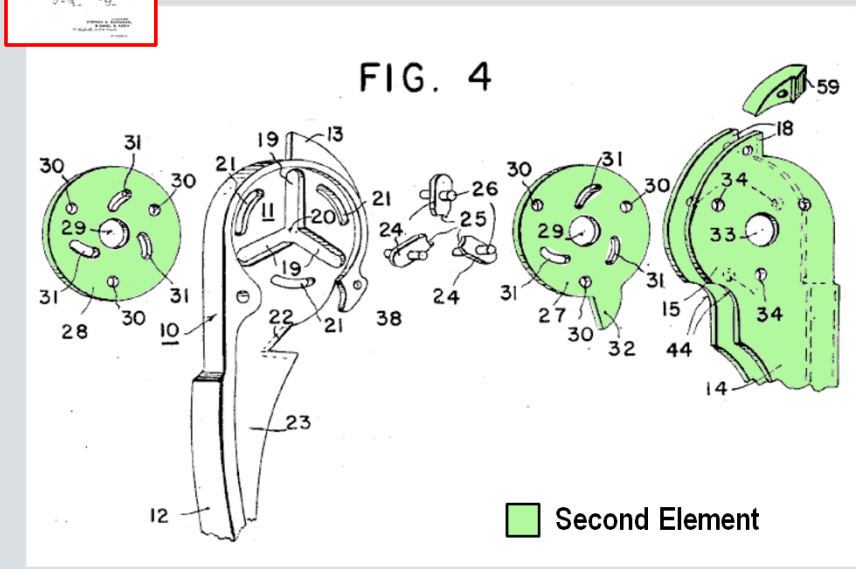
the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;

each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;

the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening external thereto, each said at least one slot having a first section configured to engage the force transfer element of one said at least one grinning element, such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide.



Buchanan Prior Invention



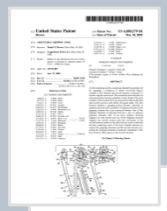
actuation portion:

portion of second element that facilitates movement of the gripping element

Invalidity
Asserted Claims: ‘579 Patent – Claim 1

1. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:	✓
a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;	✓
the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;	✓
each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;	
the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening external thereto,	✓
each said at least one slot having a first section configured to engage the force transfer element of one said at least one grinning element,	
such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide.	

Buchanan Patent Prior Invention



‘579 Patent – Claim 1

1. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:

a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;

the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;

each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;

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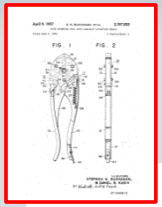
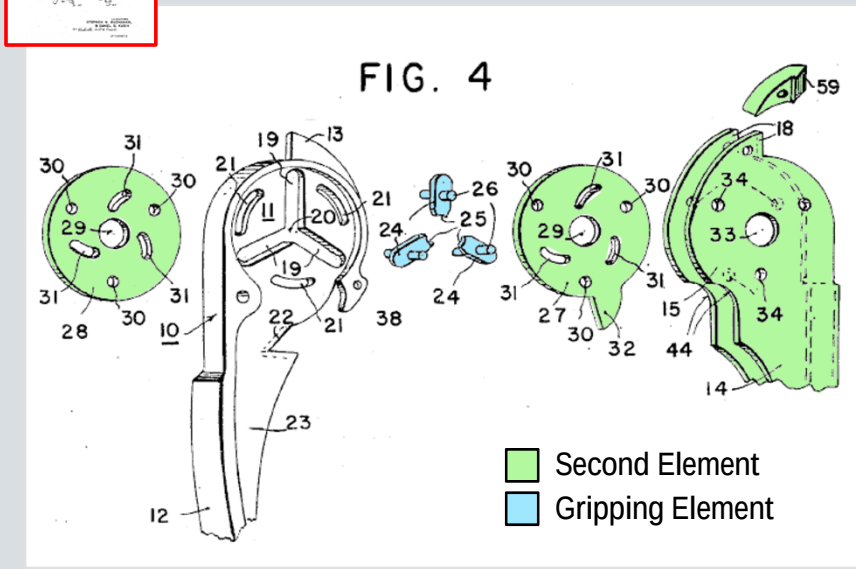


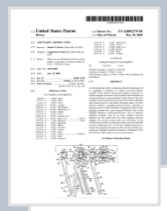
Buchanan Prior Invention



Invalidity
Asserted Claims: ‘579 Patent – Claim 1

1. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:	✓
a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;	✓
the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;	✓
each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;	
the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening external thereto,	✓
each said at least one slot having a first section configured to engage the force transfer element of one said at least one grinning element,	✓
such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide.	

Buchanan Patent Prior Invention



‘579 Patent – Claim 1

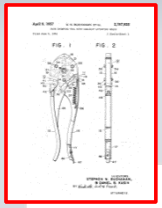
1. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:

a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;

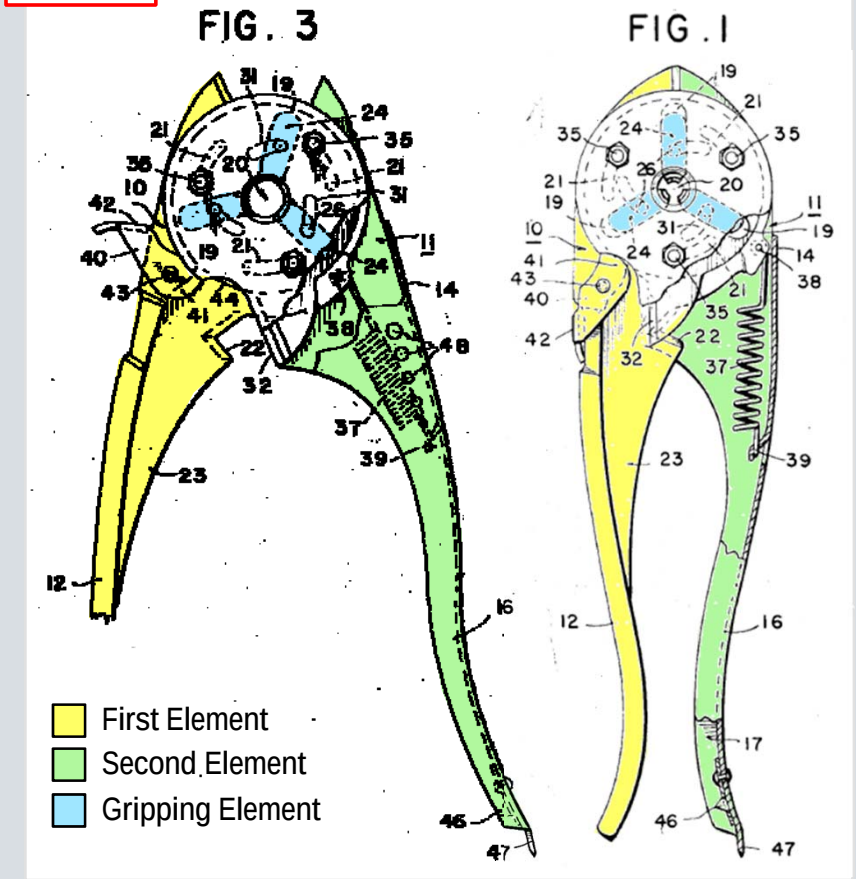
the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;

each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;

the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening external thereto, each said at least one slot having a first section configured to engage the force transfer element of one said at least one grinning element, such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide.



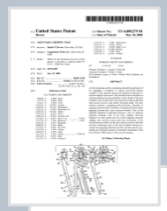
Buchanan Prior Invention



Invalidity
Asserted Claims: ‘579 Patent – Claim 1

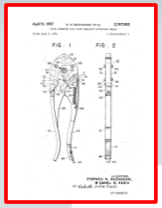
1. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:	✓
a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;	✓
the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;	✓
each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;	
the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening external thereto,	✓
each said at least one slot having a first section configured to engage the force transfer element of one said at least one grinning element,	✓
such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide.	✓

Buchanan Patent Prior Invention

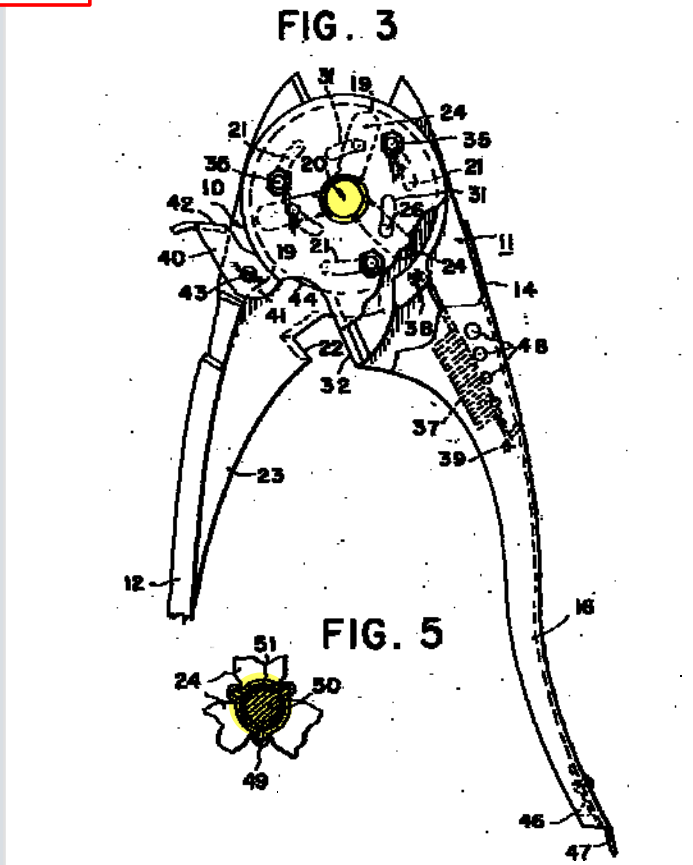


‘579 Patent – Claim 9

9. The gripping tool as recited in claim **1**, wherein the gripping portion and actuation portion circumferentially engage the workpiece.



Buchanan Prior Invention



Invalidity
Asserted Claims: ‘579 Patent – Claim 9

9. The gripping tool as recited in claim 1, wherein the gripping portion and actuation portion circumferentially engage the workpiece.	

Invalidity
Asserted Claims: '579 Patent – Claim 16

Independent Claim 16, the '579 Patent

16. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:

a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;

the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;

each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;

the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening, each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element, such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide;

wherein movement of the at least one gripping element in curvilinear.

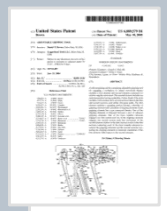
No "external thereto"

Movement "curvilinear"

PTX001, Claim 16

PTX001, Claim 16

Buchanan Patent Prior Invention



‘579 Patent – Claim 16

16. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:

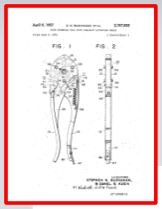
a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;

the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;

each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;

the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening, each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element, such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide;

wherein movement of the at least one gripping element in curvilinear.



Buchanan Prior Invention

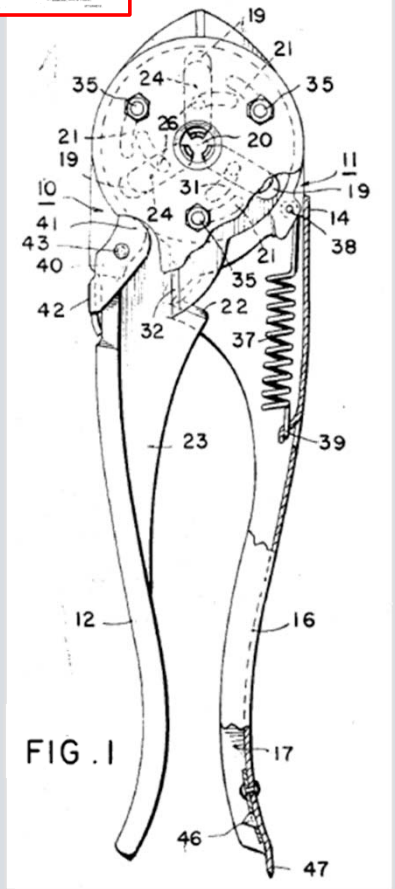


FIG. 1

The present invention relates to a multifunctional tool, more especially adapted for use in the insulated electrical wire art.

‘925 Pat. at Col. 1, Ln. 14-16

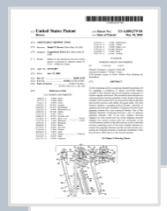
It is a further object of this invention to provide an improved crimper capable of providing effective pressure over considerable area….

‘925 Pat. at Col. 1, Ln. 36-38

Invalidity
Asserted Claims: '579 Patent – Claim 16

16. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:	✓
a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;	
the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;	
each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;	
the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening,	
each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element,	
such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide;	
wherein movement of the at least one gripping element in curvilinear.	

Buchanan Patent Prior Invention



‘579 Patent – Claim 16

16. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:

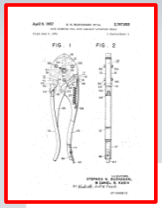
a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;

the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;

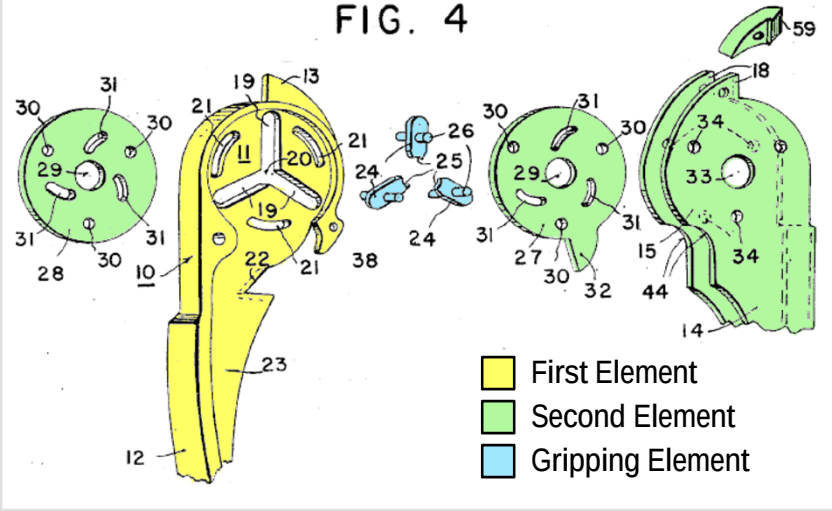
each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;

the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening, each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element, such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide;

wherein movement of the at least one gripping element in curvilinear.



Buchanan Prior Invention



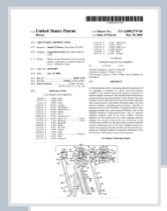
second element:

a second grasping portion containing an opening concentric with an opening within one end of a first element, and an actuation portion, and at least one slot defined within one end of the second grasping portion

Invalidity
Asserted Claims: ‘579 Patent – Claim 16

16. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:	✓
a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;	✓
the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;	
each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;	
the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening,	
each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element,	
such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide;	
wherein movement of the at least one gripping element in curvilinear.	

Buchanan Patent Prior Invention



‘579 Patent – Claim 16

16. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:

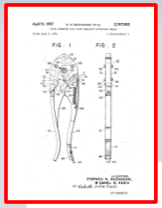
a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;

the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;

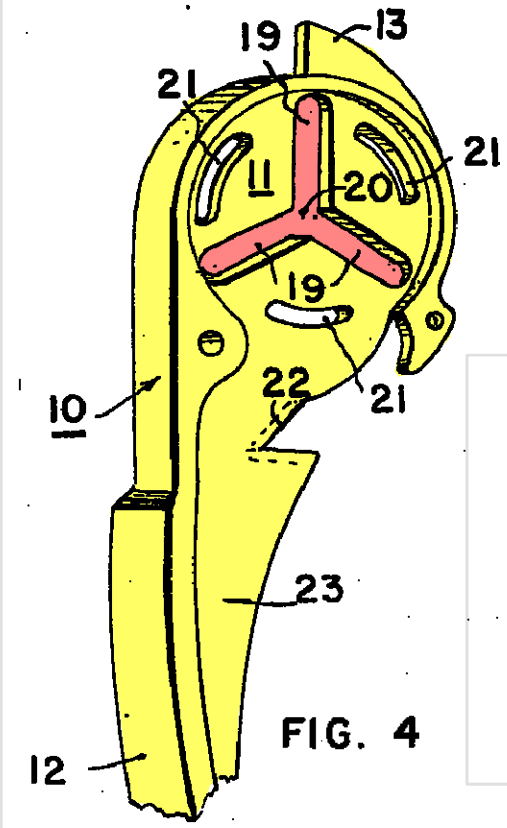
each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;

the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening, each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element, such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide;

wherein movement of the at least one gripping element in curvilinear.



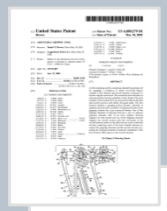
Buchanan Prior Invention



Invalidity
Asserted Claims: '579 Patent – Claim 16

16. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:	✓
a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;	✓
the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;	✓
each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;	
the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening,	
each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element,	
such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide;	
wherein movement of the at least one gripping element in curvilinear.	

Buchanan Patent Prior Invention



‘579 Patent – Claim 16

16. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:

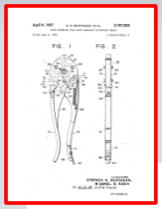
a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;

the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;

each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;

the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening, each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element, such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide;

wherein movement of the at least one gripping element in curvilinear.



Buchanan Prior Invention

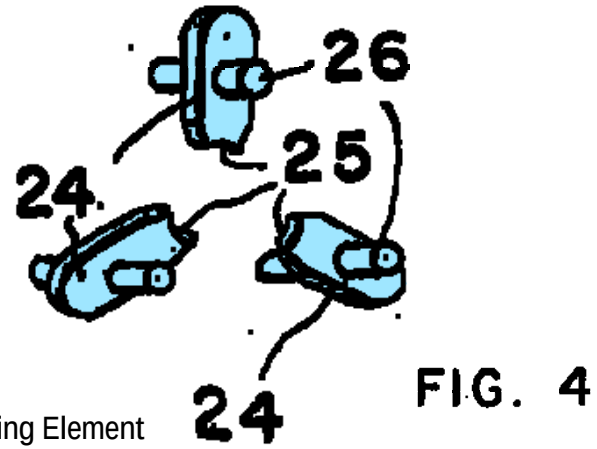
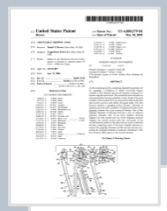


FIG. 4

Invalidity
Asserted Claims: '579 Patent – Claim 16

16. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:	✓
a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;	✓
the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;	✓
each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;	
the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening,	
each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element,	
such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide;	
wherein movement of the at least one gripping element in curvilinear.	

Buchanan Patent Prior Invention



‘579 Patent – Claim 16

16. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:

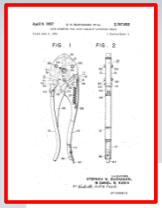
a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;

the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;

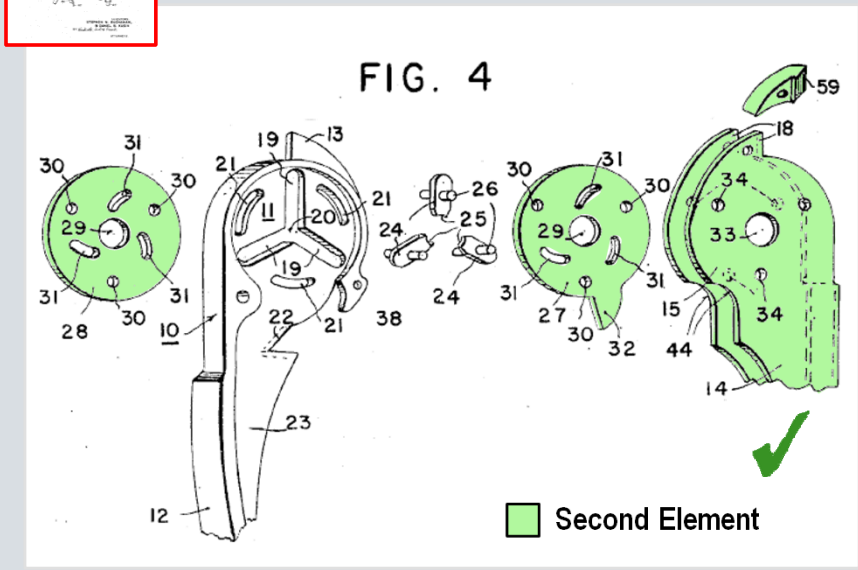
each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;

the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening, each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element, such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide;

wherein movement of the at least one gripping element in curvilinear.



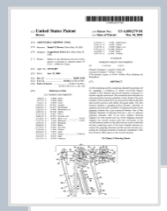
Buchanan Prior Invention



Invalidity
Asserted Claims: '579 Patent – Claim 16

16. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:	✓
a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;	✓
the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;	✓
each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;	
the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening,	✓
each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element,	
such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide;	
wherein movement of the at least one gripping element in curvilinear.	

Buchanan Patent Prior Invention



‘579 Patent – Claim 16

16. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:

a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;

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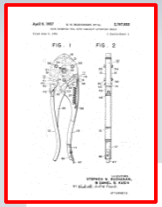
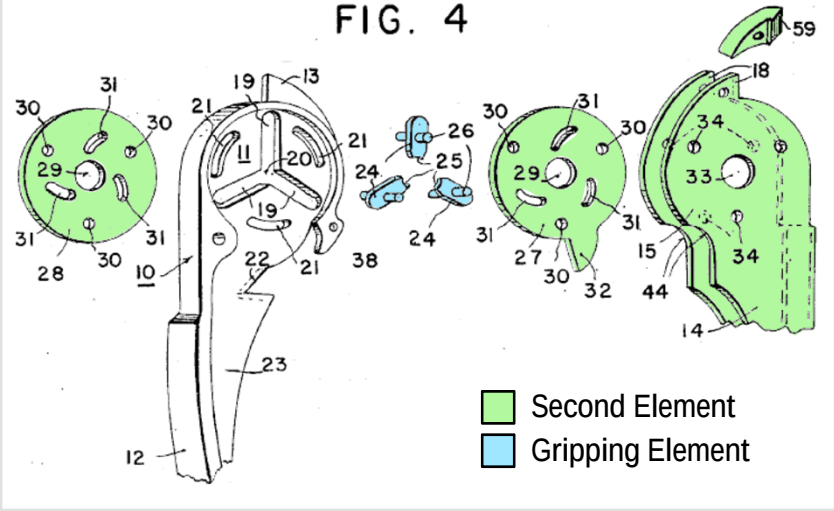
wherein movement of the at least one gripping element in curvilinear.



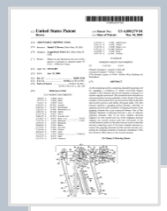
Buchanan Prior Invention



Invalidity
Asserted Claims: '579 Patent – Claim 16

16. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:	✓
a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;	✓
the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;	✓
each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;	
the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening,	✓
each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element,	✓
such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide;	
wherein movement of the at least one gripping element in curvilinear.	

Buchanan Patent Prior Invention



‘579 Patent – Claim 16

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a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;

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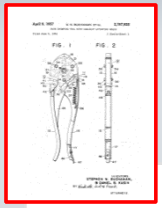
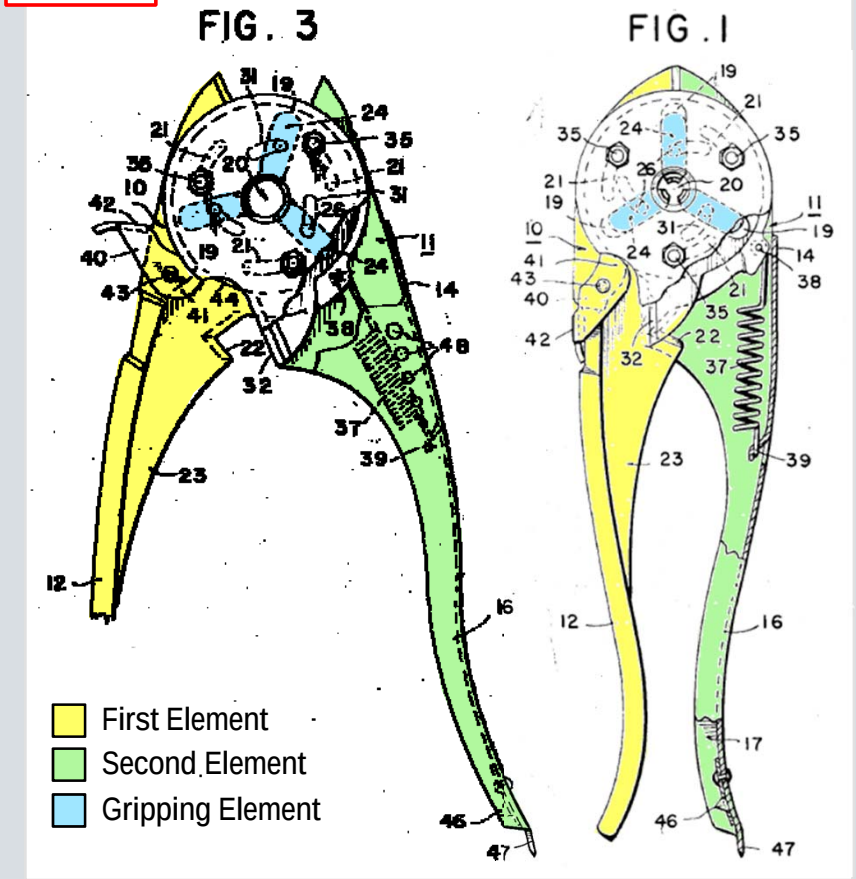
each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;

the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening, each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element, such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide;

wherein movement of the at least one gripping element in curvilinear.



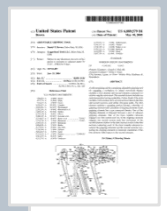
Buchanan Prior Invention



Invalidity
Asserted Claims: '579 Patent – Claim 16

16. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:	✓
a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;	✓
the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;	✓
each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;	
the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening,	✓
each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element,	✓
such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide;	✓
wherein movement of the at least one gripping element in curvilinear.	

Buchanan Patent Prior Invention



‘579 Patent – Claim 16

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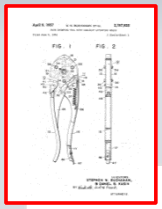
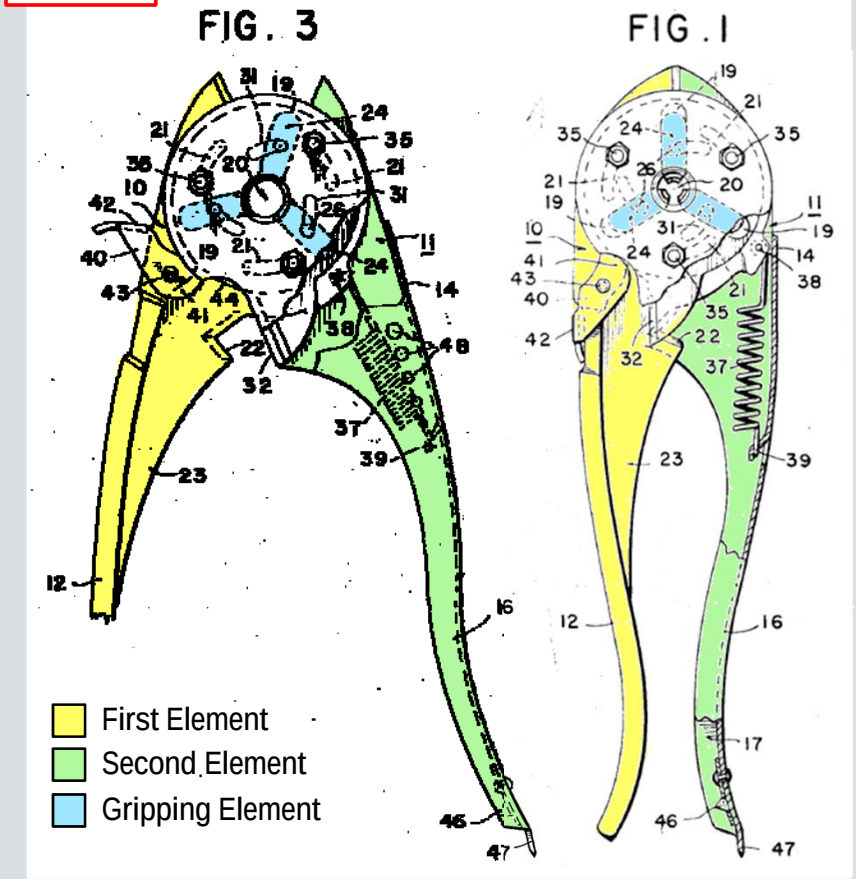
each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;

the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening, each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element, such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide;

wherein movement of the at least one gripping element in curvilinear.



Buchanan Prior Invention



Invalidity
Asserted Claims: '579 Patent – Claim 16

16. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:	✓
a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;	✓
the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;	✓
each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;	
the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening,	✓
each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element,	✓
such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide;	✓
wherein movement of the at least one gripping element in curvilinear.	✓

Buchanan Patent Prior Invention

‘470 Patent

US007992470B2

(12) **United States Patent**
Brown

(10) **Patent No.: US 7,992,470 B2**
(45) **Date of Patent: *Aug. 9, 2011**

(54) **ADJUSTABLE GRIPPING TOOL**

(75) Inventor: **Daniel P. Brown**, Palos Park, IL (US)

(73) Assignee: **Loggerhead Tools, LLC**, Palos Park, IL (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1071 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **11/102,966**

(22) Filed: **Apr. 11, 2005**

(51) *B25B 13/48* (2006.01)

(52) **81/90.2**; 81/90.1; 81/58

(58) ... 81/90.2, 3, 90.5, 91.1, 126, 128
... te search history.

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(Continued)

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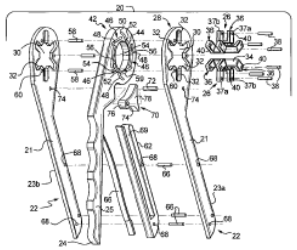
(57) **ABSTRACT**

A self-energizing and de-energizing adjustable gripping tool for engaging a work piece to impart work thereto includes a first element and second element connected for relative movement. The second element includes an actuation portion having a plurality of slots. The first element includes gripping elements which are each associated with a force transfer element which engages one of the slots such that movement of the second element relative to the first element actuates the gripping elements to engage the work piece.

41 Claims, 24 Drawing Sheets



Buchanan Prior Invention

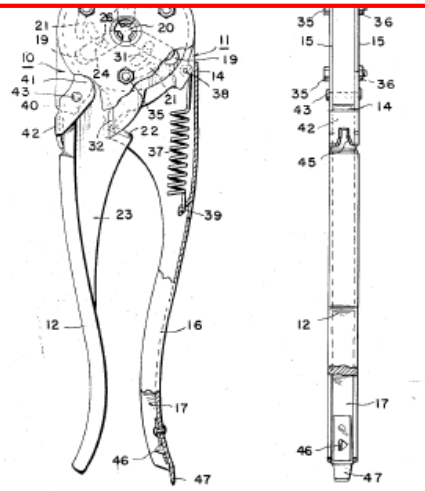
April 9, 1957 S. N. BUCHANAN ET AL 2,787,925

WIRE CRIMPING TOOL WITH CAM-SLOT ACTUATING MEANS

April 9, 1957 **S. N. BUCHANAN ET AL** **2,787,925**

WIRE CRIMPING TOOL WITH CAM-SLOT ACTUATING MEANS

Filed June 8, 1954



INVENTORS
STEPHEN N. BUCHANAN,
& DANIEL B. KUSIV
BY Wenderoth, Lind & Ponack
ATTORNEYS

Invalidity
Asserted Claims: '470 Patent – Claim 1

Differences: Claim 1 of the '579 Patent and Claim 1 of the '470

'579

1. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:

a first element and a second element connected for relative angular movement which generates movement of at least one gripping element;

the first element including a gripping portion configured to engage the workpiece including a first opening, at least one guide extending from the first opening and the at least one gripping element;

each at least one gripping element including a body portion adapted for engaging the workpiece, an arm portion configured to engage one of said at least one guide and a force transfer element contiguous with the arm portion;

the second element including an actuation portion having a second opening concentric with the first opening and at least one slot disposed adjacent the second opening external thereto, each said at least one slot having a first section configured to engage the force transfer element of one said at least one grinning element, such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide.

PTX001, Claim 1

"defined in the gripping portion and said" '470

PTX001, Claim 1

Invalidity
Asserted Claims: '470 Patent – Claim 1

Differences: Claim 1 of the '579 Patent and Claim 1 of the '470

'470

1. An adjustable gripping tool for engaging a work piece to impart work thereto, the tool comprising:

(a) a first element and a second element connected for relative movement which generates movement of at least one gripping element;

(b) the first element including a gripping portion configured to engage the work piece including at least one guide defined in the gripping portion and said at least one gripping element;

(c) each at least one gripping element including a body portion adapted for engaging the work piece, an arm portion configured to engage one said at least one guide and a force transfer element contiguous with the arm portion;

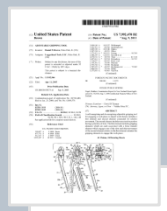
(d) the second element including an actuation portion having at least one slot therein, each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element, such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide, wherein the first element further includes at least one aligning element such that each said at least one aligning element is disposed between an adjacent pair of guides and extends parallel to the force transfer elements.

Additional Requirement

PTX003 Claim 1

PTX003, Claim 1

Buchanan Patent Prior Invention



‘470 Patent – Claim 1

What is claimed is:

1. An adjustable gripping tool for engaging a work piece to impart work thereto, the tool comprising:

(a) a first element and a second element connected for relative movement which generates movement of at least one gripping element;

(b) the first element including a gripping portion configured to engage the work piece including at least one guide defined in the gripping portion and said at least one gripping element;

(c) each at least one gripping element including a body portion adapted for engaging the work piece, an arm portion configured to engage one said at least one guide and a force transfer element contiguous with the arm portion;

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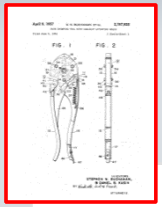


Buchanan Prior Invention

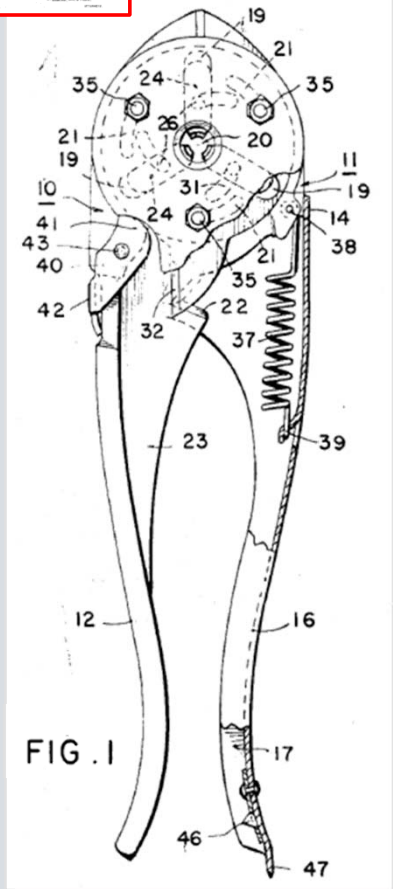


FIG. 1

The present invention relates to a multifunctional tool, more especially adapted for use in the insulated electrical wire art.

‘925 Pat. at Col. 1, Ln. 14-16

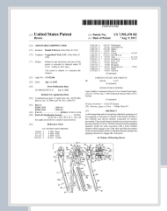
It is a further object of this invention to provide an improved crimper capable of providing effective pressure over considerable area….

‘925 Pat. at Col. 1, Ln. 36-38

Invalidity
Asserted Claims: ‘470 Patent – Claim 1

1. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:	✓
(a) a first element and a second element connected for relative movement which generates movement of at least one gripping element;	
(b) the first element including a gripping portion configured to engage the work piece including at least one guide defined in the gripping portion and said at least one gripping element;	
(c) each at least one gripping element including a body portion adapted for engaging the work piece, an arm portion configured to engage one said at least one guide and a force transfer element contiguous with the arm portion;	
(d) the second element including an actuation portion having at least one slot therein,	
each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element,	
such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one grip ping element along respective said at least one guide,	
wherein the first element further includes at least one aligning element such that each said at least one aligning element is disposed between an adjacent pair of guides and extends parallel to the force transfer elements.	

Buchanan Patent Prior Invention



‘470 Patent – Claim 1

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(c) each at least one gripping element including a body portion adapted for engaging the work piece, an arm portion configured to engage one said at least one guide and a force transfer element contiguous with the arm portion;

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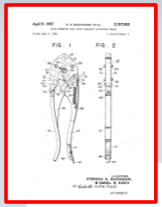
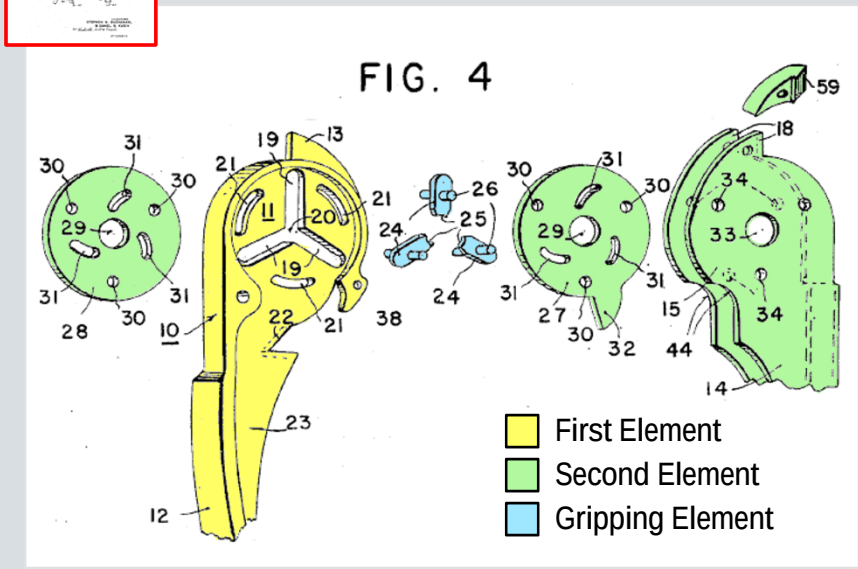


Buchanan Prior Invention



Invalidity
Asserted Claims: ‘470 Patent – Claim 1

1. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:	✓
(a) a first element and a second element connected for relative movement which generates movement of at least one gripping element;	✓
(b) the first element including a gripping portion configured to engage the work piece including at least one guide defined in the gripping portion and said at least one gripping element;	
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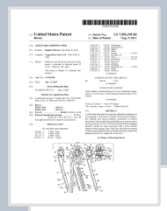
Buchanan Patent Prior Invention



‘470 Patent – Claim 1

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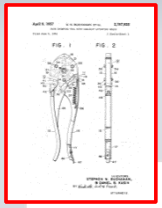
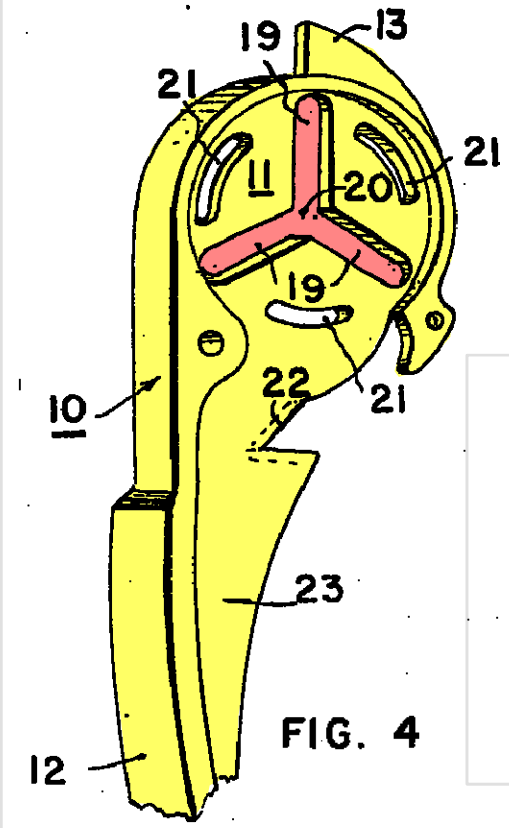
(c) each at least one gripping element including a body portion adapted for engaging the work piece, an arm portion configured to engage one said at least one guide and a force transfer element contiguous with the arm portion;

(d) the second element including an actuation portion having at least one slot therein, each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element, such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide, wherein the first element further includes at least one aligning element such that each said at least one aligning element is disposed between an adjacent pair of guides and extends parallel to the force transfer elements.



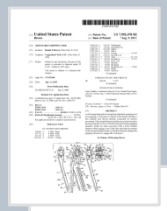
Buchanan Prior Invention



Invalidity
Asserted Claims: ‘470 Patent – Claim 1

1. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:	✓
(a) a first element and a second element connected for relative movement which generates movement of at least one gripping element;	✓
(b) the first element including a gripping portion configured to engage the work piece including at least one guide defined in the gripping portion and said at least one gripping element;	✓
(c) each at least one gripping element including a body portion adapted for engaging the work piece, an arm portion configured to engage one said at least one guide and a force transfer element contiguous with the arm portion;	
(d) the second element including an actuation portion having at least one slot therein,	
each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element,	
such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one grip ping element along respective said at least one guide,	
wherein the first element further includes at least one aligning element such that each said at least one aligning element is disposed between an adjacent pair of guides and extends parallel to the force transfer elements.	

Buchanan Patent Prior Invention



‘470 Patent – Claim 1

What is claimed is:

1. An adjustable gripping tool for engaging a work piece to impart work thereto, the tool comprising:

(a) a first element and a second element connected for relative movement which generates movement of at least one gripping element;

(b) the first element including a gripping portion configured to engage the work piece including at least one guide defined in the gripping portion and said at least one gripping element;

(c) each at least one gripping element including a body portion adapted for engaging the work piece, an arm portion configured to engage one said at least one guide and a force transfer element contiguous with the arm portion;

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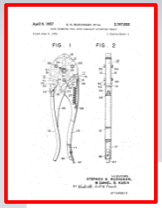


Buchanan Prior Invention

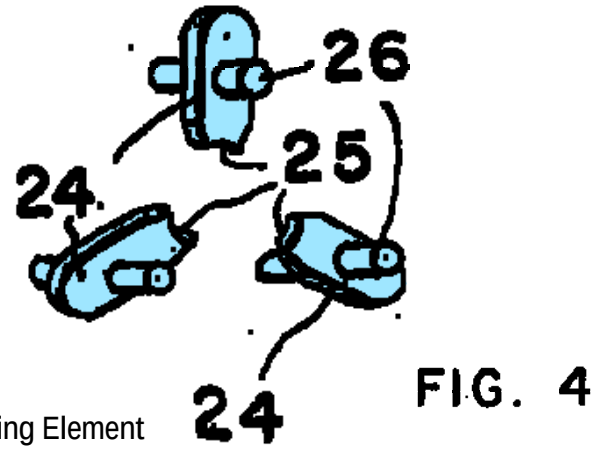
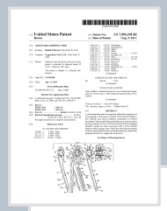


FIG. 4

Invalidity
Asserted Claims: ‘470 Patent – Claim 1

1. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:	✓
(a) a first element and a second element connected for relative movement which generates movement of at least one gripping element;	✓
(b) the first element including a gripping portion configured to engage the work piece including at least one guide defined in the gripping portion and said at least one gripping element;	✓
(c) each at least one gripping element including a body portion adapted for engaging the work piece, an arm portion configured to engage one said at least one guide and a force transfer element contiguous with the arm portion;	
(d) the second element including an actuation portion having at least one slot therein,	✓
each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element,	✓
such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one grip ping element along respective said at least one guide,	✓
wherein the first element further includes at least one aligning element such that each said at least one aligning element is disposed between an adjacent pair of guides and extends parallel to the force transfer elements.	

Buchanan Patent Prior Invention



‘470 Patent – Claim 1

What is claimed is:

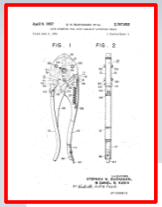
1. An adjustable gripping tool for engaging a work piece to impart work thereto, the tool comprising:

(a) a first element and a second element connected for relative movement which generates movement of at least one gripping element;

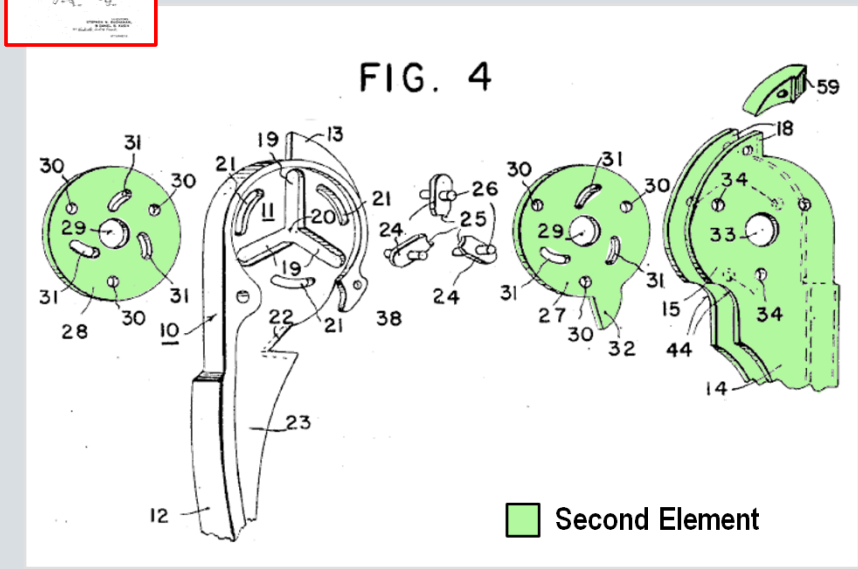
(b) the first element including a gripping portion configured to engage the work piece including at least one guide defined in the gripping portion and said at least one gripping element;

(c) each at least one gripping element including a body portion adapted for engaging the work piece, an arm portion configured to engage one said at least one guide and a force transfer element contiguous with the arm portion;

(d) the second element including an actuation portion having at least one slot therein, each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element, such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide, wherein the first element further includes at least one aligning element such that each said at least one aligning element is disposed between an adjacent pair of guides and extends parallel to the force transfer elements.



Buchanan Prior Invention



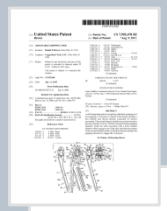
actuation portion:

portion of second element integral to and formed within the tool head of the second element that facilitates movement of the gripping element

Invalidity
Asserted Claims: ‘470 Patent – Claim 1

1. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:	✓
(a) a first element and a second element connected for relative movement which generates movement of at least one gripping element;	✓
(b) the first element including a gripping portion configured to engage the work piece including at least one guide defined in the gripping portion and said at least one gripping element;	✓
(c) each at least one gripping element including a body portion adapted for engaging the work piece, an arm portion configured to engage one said at least one guide and a force transfer element contiguous with the arm portion;	
(d) the second element including an actuation portion having at least one slot therein,	✓
each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element,	
such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one grip ping element along respective said at least one guide,	
wherein the first element further includes at least one aligning element such that each said at least one aligning element is disposed between an adjacent pair of guides and extends parallel to the force transfer elements.	

Buchanan Patent Prior Invention



‘470 Patent – Claim 1

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1. An adjustable gripping tool for engaging a work piece to impart work thereto, the tool comprising:

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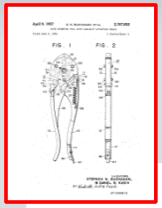
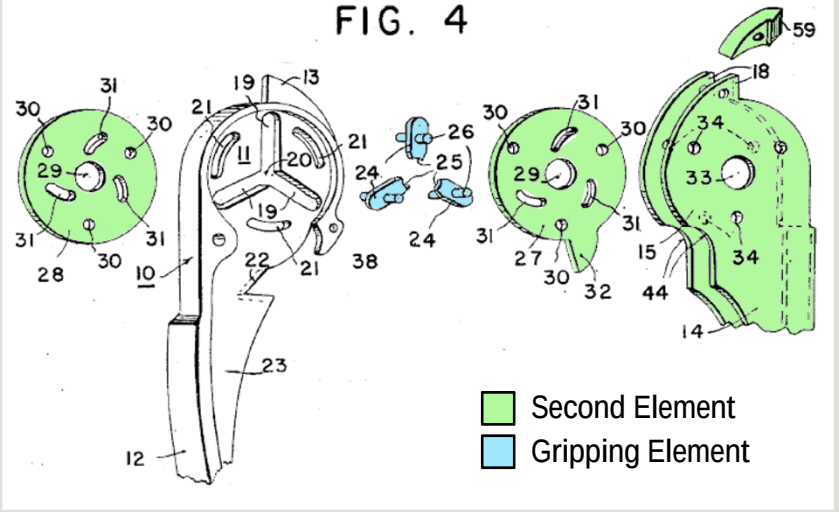


Buchanan Prior Invention



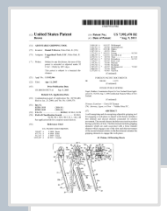
second element:

a second part containing a grasping portion and tool head at one end of the grasping portion, where formed within and integral to the tool head is an opening concentric with an opening within one end of a first element, and an actuation portion, and at least one slot

Invalidity
Asserted Claims: ‘470 Patent – Claim 1

1. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:	✓
(a) a first element and a second element connected for relative movement which generates movement of at least one gripping element;	✓
(b) the first element including a gripping portion configured to engage the work piece including at least one guide defined in the gripping portion and said at least one gripping element;	✓
(c) each at least one gripping element including a body portion adapted for engaging the work piece, an arm portion configured to engage one said at least one guide and a force transfer element contiguous with the arm portion;	
(d) the second element including an actuation portion having at least one slot therein,	✓
each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element,	✓
such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one grip ping element along respective said at least one guide,	
wherein the first element further includes at least one aligning element such that each said at least one aligning element is disposed between an adjacent pair of guides and extends parallel to the force transfer elements.	

Buchanan Patent Prior Invention



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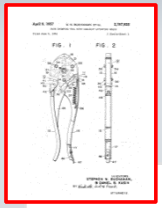
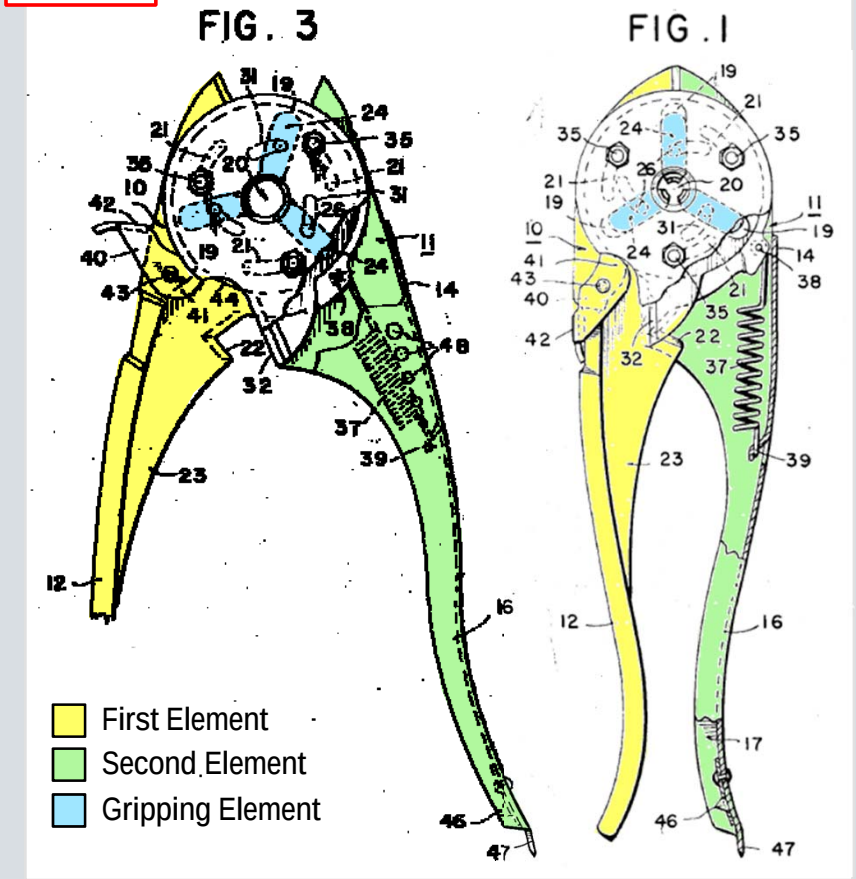


Buchanan Prior Invention



Invalidity
Asserted Claims: ‘470 Patent – Claim 1

1. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:	✓
(a) a first element and a second element connected for relative movement which generates movement of at least one gripping element;	✓
(b) the first element including a gripping portion configured to engage the work piece including at least one guide defined in the gripping portion and said at least one gripping element;	✓
(c) each at least one gripping element including a body portion adapted for engaging the work piece, an arm portion configured to engage one said at least one guide and a force transfer element contiguous with the arm portion;	
(d) the second element including an actuation portion having at least one slot therein,	✓
each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element,	✓
such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one grip ping element along respective said at least one guide,	✓
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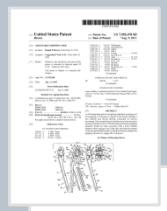
Buchanan Patent Prior Invention



‘470 Patent – Claim 1

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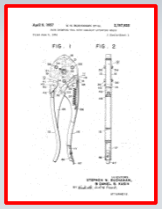
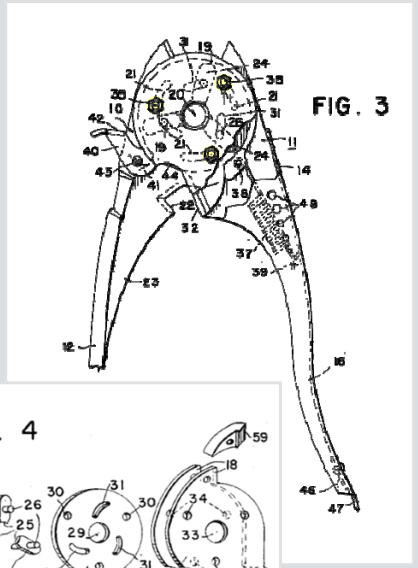
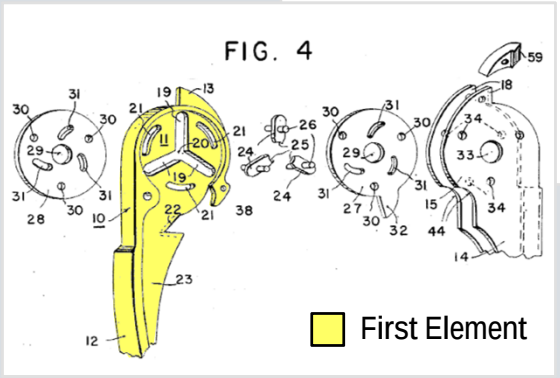
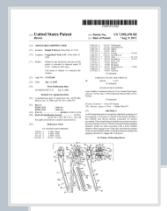


Buchanan Prior Invention





Buchanan Patent Prior Invention



‘470 Patent – Claim 1

What is claimed is:

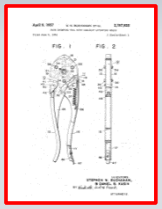
1. An adjustable gripping tool for engaging a work piece to impart work thereto, the tool comprising:

(a) a first element and a second element connected for relative movement which generates movement of at least one gripping element;

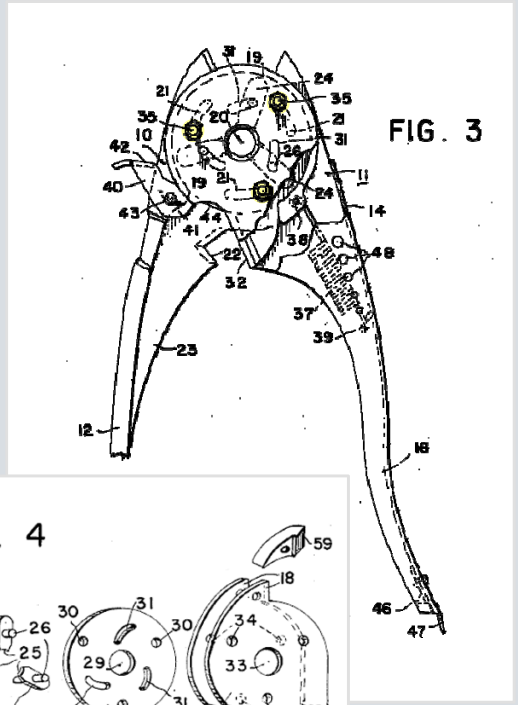
(b) the first element including a gripping portion configured to engage the work piece including at least one guide defined in the gripping portion and said at least one gripping element;

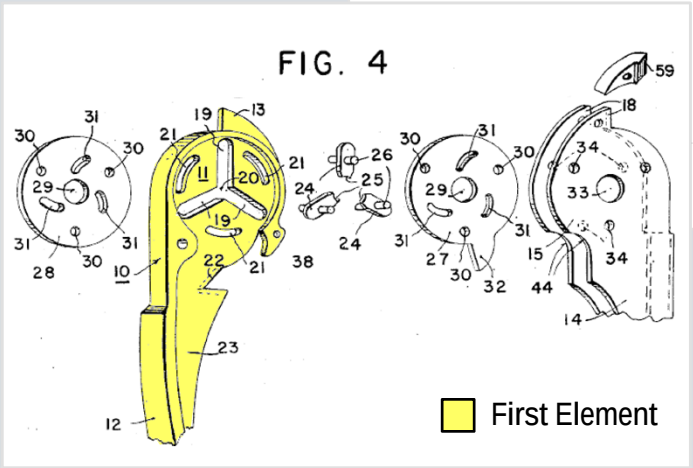
(c) each at least one gripping element including a body portion adapted for engaging the work piece, an arm portion configured to engage one said at least one guide and a force transfer element contiguous with the arm portion;

(d) the second element including an actuation portion having at least one slot therein, each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element, such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one gripping element along respective said at least one guide, wherein the first element further includes at least one aligning element such that each said at least one aligning element is disposed between an adjacent pair of guides and extends parallel to the force transfer elements.



Buchanan Prior Invention

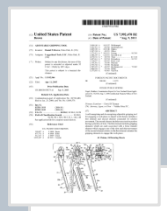




Invalidity
Asserted Claims: ‘470 Patent – Claim 1

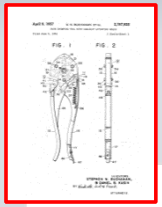
1. An adjustable gripping tool for engaging a workpiece to impart work thereto, the tool comprising:	✓
(a) a first element and a second element connected for relative movement which generates movement of at least one gripping element;	✓
(b) the first element including a gripping portion configured to engage the work piece including at least one guide defined in the gripping portion and said at least one gripping element;	✓
(c) each at least one gripping element including a body portion adapted for engaging the work piece, an arm portion configured to engage one said at least one guide and a force transfer element contiguous with the arm portion;	
(d) the second element including an actuation portion having at least one slot therein,	✓
each said at least one slot having a first section configured to engage the force transfer element of one said at least one gripping element,	✓
such that movement of the second element with respect to the first element actuates each at least one first section to contact and move each respective force transfer element thereby actuating each said at least one grip ping element along respective said at least one guide,	✓
wherein the first element further includes at least one aligning element such that each said at least one aligning element is disposed between an adjacent pair of guides and extends parallel to the force transfer elements.	

Buchanan Patent Prior Invention

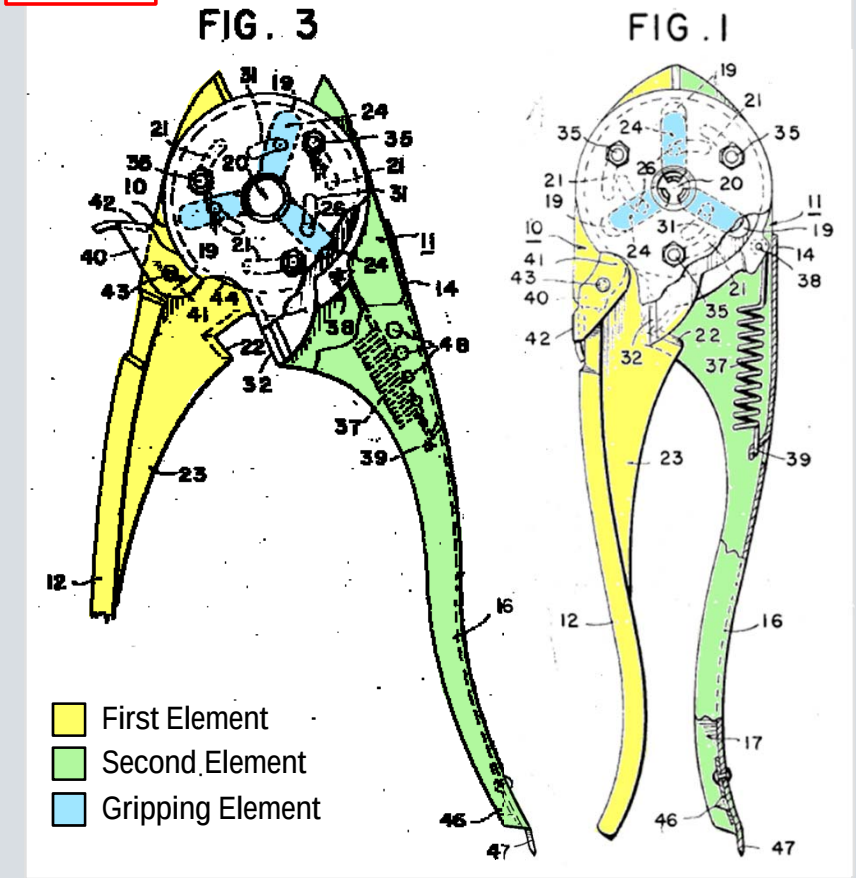


‘470 Patent – Claim 9

9. The gripping tool as recited in claim 1, wherein movement of said at least one gripping element is curvilinear.



Buchanan Prior Invention



Invalidity
Asserted Claims: ‘470 Patent – Claim 9

9. The gripping tool as recited in claim 1, wherein movement of said at least one gripping element is curvilinear.

Dr. Frank Fronczak

Direct Examination

May 9, 2017