No. 880,085. PATENTED FEB. 25, 1908.

T. A. LINDSEY.

PUNCHING MACHINE.

APPLICATION FILED MAY 2, 1907.

Fig. 1.

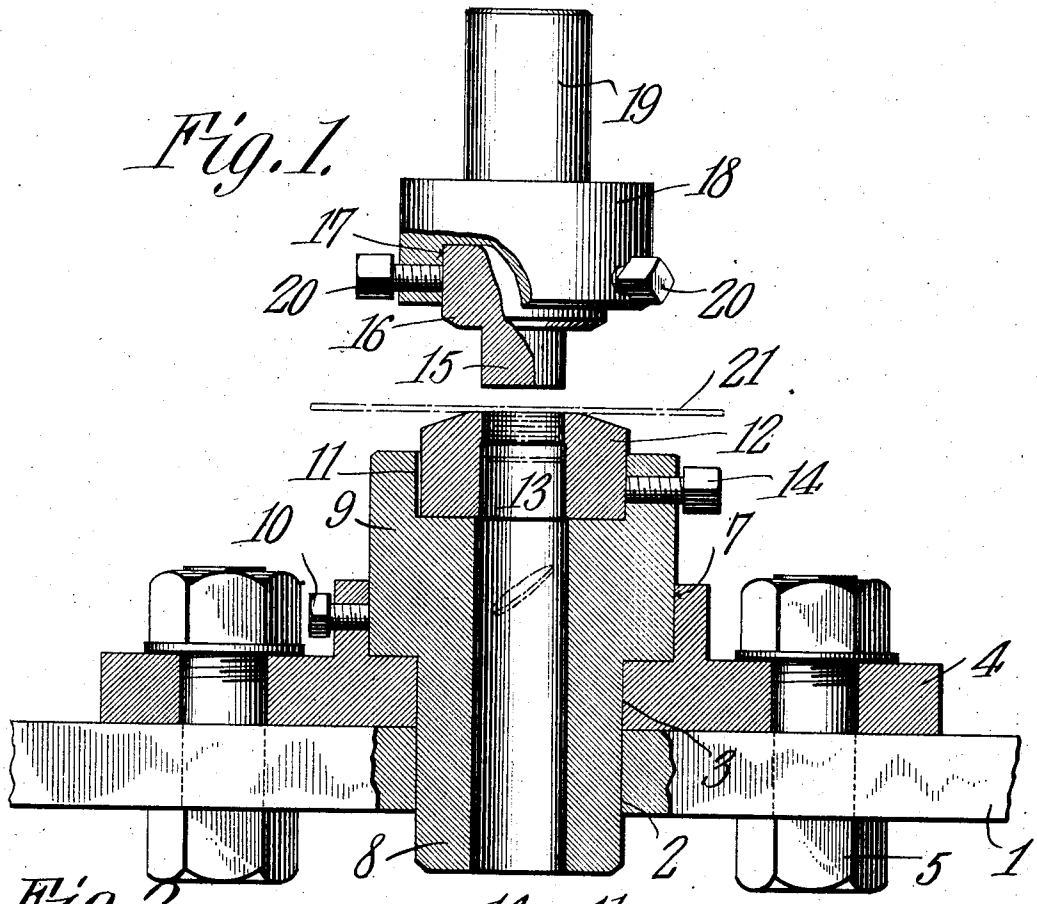
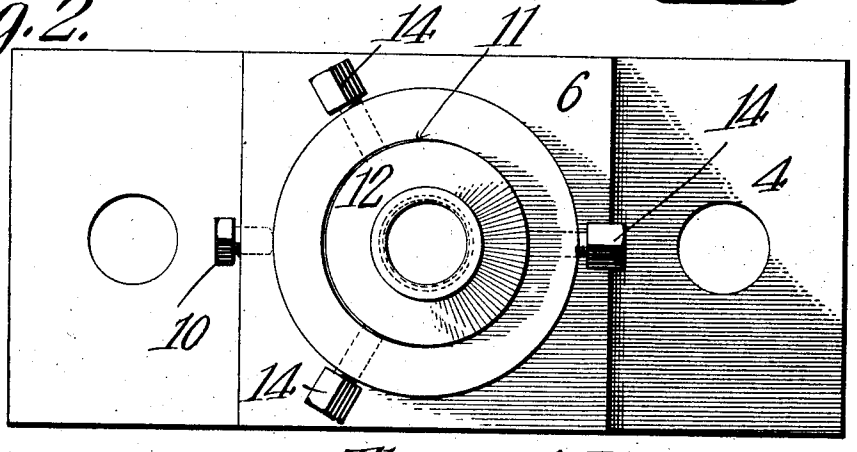


Fig. 2.



WITNESSES:

E. J. Stewart

Herbert D. Lawson

Thomas A. Lindsey, INVENTOR.

By C. A. Snow & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

THOMAS ARTHUR LINDSEY, OF BILTMORE, NORTH CAROLINA.

PUNCHING-MACHINE.

No. 880,085. Specification of Letters Patent. Patented Feb. 25, 1908.

Application filed May 2, 1907. Serial No. 371,441.

To all whom it may concern:

Be it known that I, THOMAS ARTHUR LINDSEY, a citizen of the United States, residing at Biltmore, in the county of Buncombe and State of North Carolina, have invented a new and useful Punching-Machine, of which the following is a specification.

This invention relates to punching machines of that character designed for producing blanks of mica and it relates more particularly to dies of peculiar construction and arrangement whereby the punching action is greatly facilitated and the cut blanks can be easily separated from the waste.

Another object is to provide means whereby the dies can be held solidly in proper position, one of said dies being adjustable so that the two dies can be properly centered.

With these and other objects in view the invention consists of certain novel features of construction and combination of parts which will be hereinafter more fully described and pointed out in the claims.

In the accompanying drawings is shown the preferred form of the invention.

In said drawings: Figure 1 is a view showing the dies partly in section and partly in elevation; and Fig. 2 is a plan view of the base and the chuck and die mounted thereon.

Referring to the figures by characters of reference, 1 designates the table of a machine, the same being provided with an opening 2 designed to register with a similar opening 3 formed in a base plate 4 which is secured to the table by means of bolts 5 or in any other suitable manner. This base plate 4 has a central upwardly extending portion 6 which, as shown in the drawings, may be rectangular in outline and formed within this upwardly extending portion is a socket 7, the walls of which are concentric with the opening 2. A tubular cylindrical shank 8 is designed to be inserted into the openings 3 and 2 and has a cylindrical head 9 at its upper end disposed to fit snugly within the socket 7 and to be secured therein by means of a set screw 10 or in any other preferred manner. The upper end of the head 9 is counterbored as indicated at 11 and constitutes a socket for a receiving die 12 the bore 13 of which is of less diameter than the passage within the head 9. The upper portion of this bore is also preferably of less diameter than the lower portion thereof. Die 12 is of slightly less diameter than the socket 11 so that a slight horizontal adjustment of the die is permitted. This adjustment may be effected by means of set screws 14 which are preferably disposed at one hundred and twenty degrees to each other and serve to hold the die in any position to which it may be shifted. The parts are so proportioned that the bore 13 will register at all times with the interior of the head 19 no matter what position the die 12 may assume. The movable or punching die 15 has a head 16 which fits snugly in a socket 17 formed in the head 18 of a plunger 19. Set screws 20 serve to bind upon the head 16 to secure it within the pocket.

When it is desired to use the dies herein described the base plate 4 is secured upon the table 1 below the die 15 and with the chuck made up of the head 9 and shank 8 directly beneath said die. Die 12 is then adjusted within socket 11 until the bore therein is caused to accurately register with the die 15. The stock to be punched, and which is preferably in the form of a strip such as indicated at 21, is placed between the dies and the die 15 upon descending will punch a blank from the stock and force it into the small end of the bore 13. As subsequent blanks are produced the blank which is first cut is forced into the larger portion of the bore 13 where it is relieved from its binding action upon the wall of the bore and is free to drop through the shank 8 and into any suitable receptacle which may be provided therefor.

Importance is attached to the fact that the die 12 is capable of horizontal adjustment, the passage within the head 9 and shank 8 being of such size as to always extend entirely across the end of the bore 13 to enable the blanks to pass freely from said bore and into the passage.

What is claimed is:

The combination with a base plate having a socket and an opening concentric with the wall of the socket; of a chuck detachably mounted within said plate and having a head seated in the socket and a shank within the opening, there being a passage through the chuck and a circular socket at one end of the passage, means for securing a chuck within the base plate, a cylindrical die slidably mounted upon the bottom of the socket in

the chuck and having a bore formed with a contracted receiving end, said bore registering at all times with the passage, and a plurality of adjusting devices within the chuck and around the socket for centering the die within the socket.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

THOMAS ARTHUR LINDSEY.

Witnesses.
R. J. STOKELY,
ETHEL RICKMAN.