

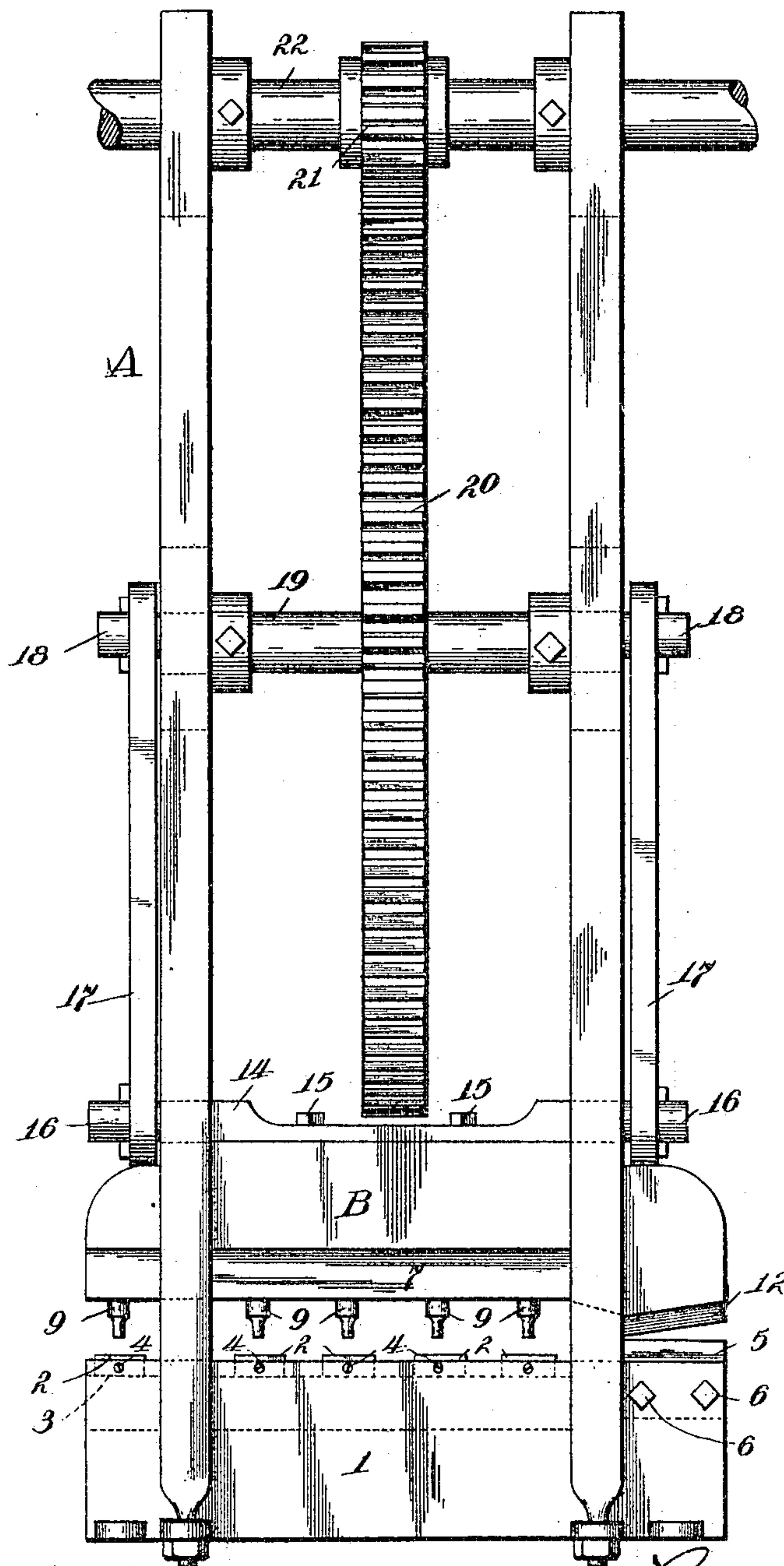
No. 819,621.

PATENTED MAY 1, 1906.

L. VAN DORIN.
POWER PUNCH AND SHEARS.
APPLICATION FILED JUNE 19, 1905.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

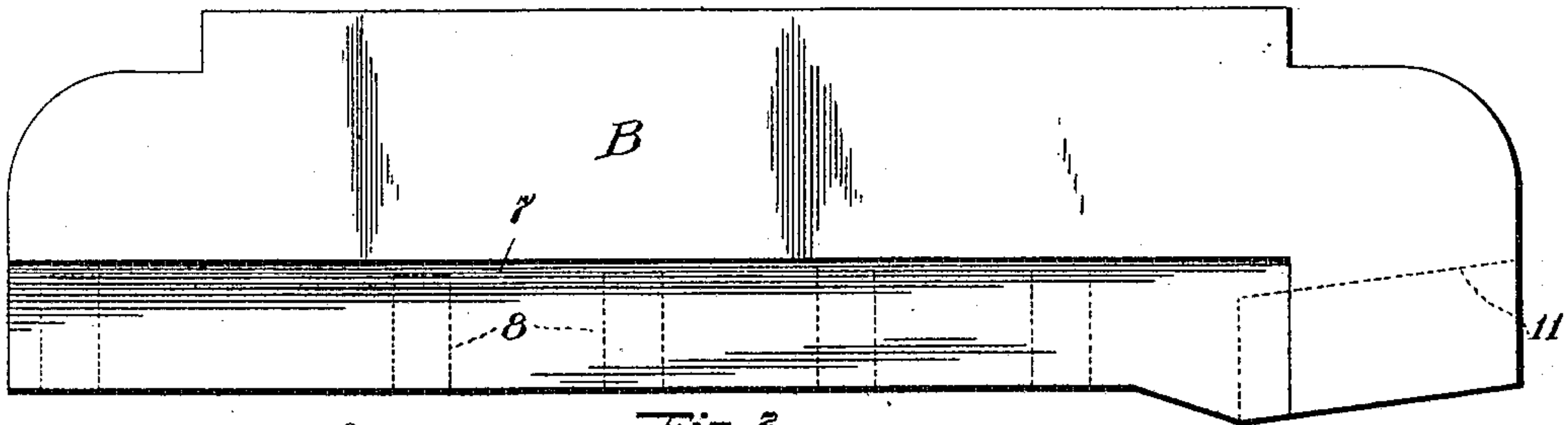


Fig. 3.

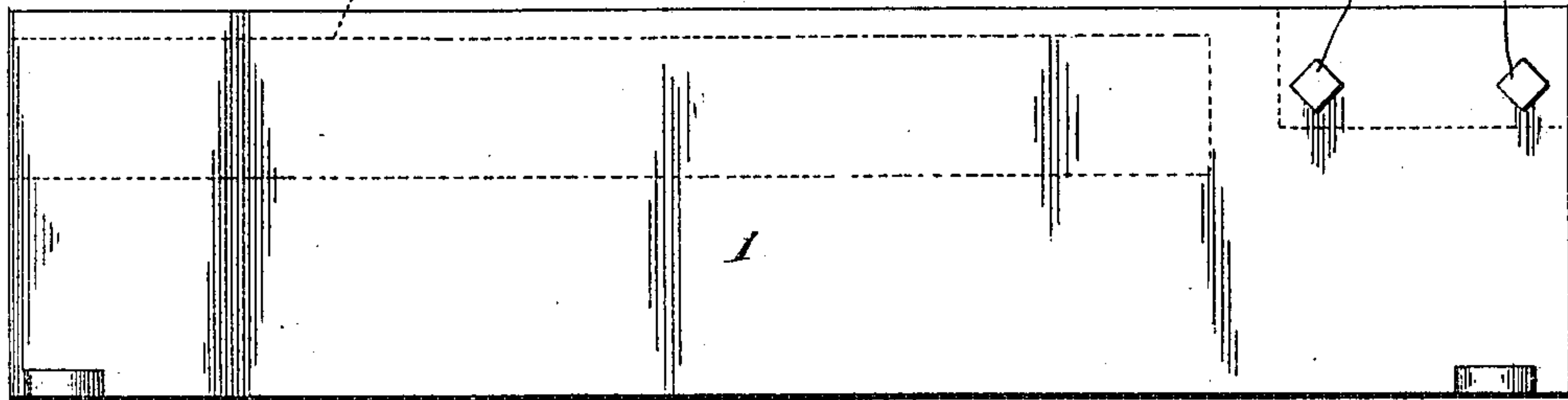


Fig. 4.

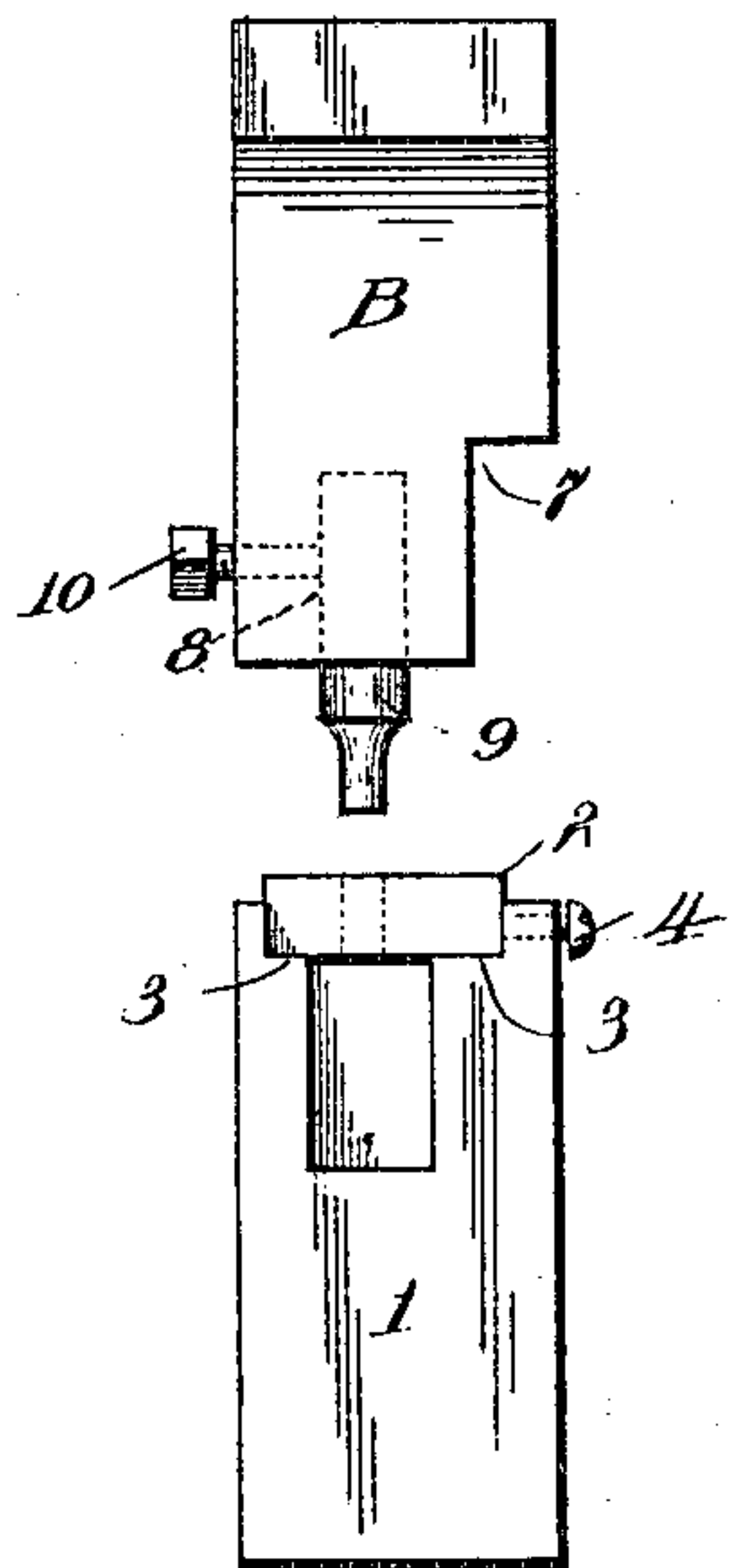
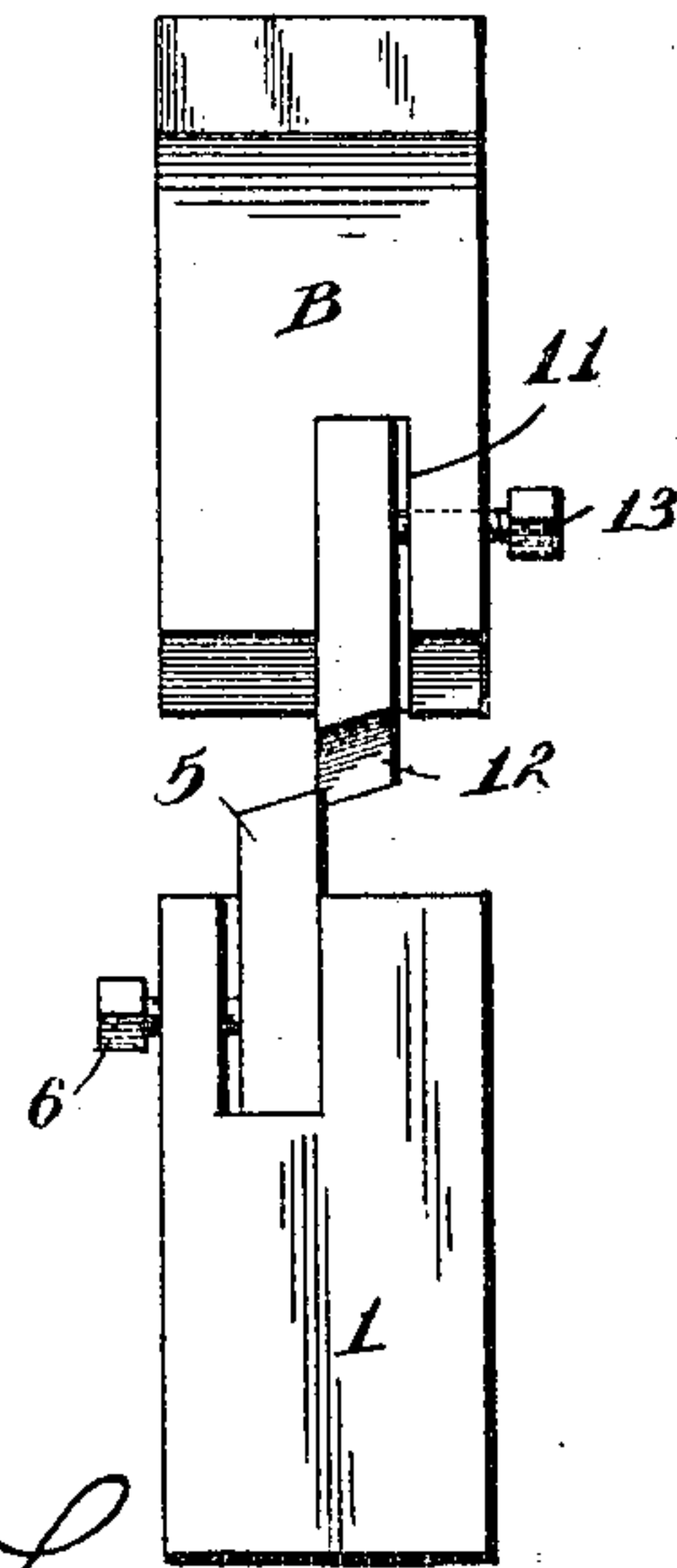


Fig. 5.



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UNITED STATES PATENT OFFICE.

LEWIS VAN DORIN, OF SAN BERNARDINO, CALIFORNIA.

POWER PUNCH AND SHEARS.

No. 819,621.

Specification of Letters Patent.

Patented May 1, 1906.

Application filed June 19, 1905. Serial No. 265,980.

To all whom it may concern:

Be it known that I, LEWIS VAN DORIN, a citizen of the United States, residing at San Bernardino, in the county of San Bernardino and State of California, have invented certain new and useful Improvements in Power Punches and Shears, of which the following is a specification.

My invention relates to an improvement in power punches and shears; and the object is to provide a simple and powerful machine for punching and cutting, the invention consisting in mechanism for applying the power direct to the punches and shears in the direct line of the work to be performed; and it further consists in certain novel features of construction and combinations of parts, which will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation. Fig. 2 is an enlarged view of the movable jaw which carries the punches and one blade of the shears. Fig. 3 is a similar view of the base, and Figs. 4 and 5 are opposite end views of the jaw and base.

A represents the frame of the machine, erected from the base 1, the latter being channeled out, as shown in the lower part of Fig. 4 and in the dotted lines of Fig. 1, to receive the punch-dies 2 2, which rest upon the shoulders 3 3, where they are held by set-screws 4 4. One end of this channel is narrower than the main portion, as shown in the lower portion of Fig. 5, to receive the lower blade 5 of the shears, the same being securely held in place by means of set-screws 6 6. This shear or blade receiving channel may be and preferably is separate and independent of the main channel, as indicated in dotted lines in Fig. 3, although it is obvious that they might be all in one.

B indicates the movable jaw, which is guided between uprights of the frame A and adapted to have a straight reciprocatory motion up and down above the base. One side is cut away or recessed, preferably, as at 7, to clear the stripper, (not shown,) which is intended to be bolted inside of the uprights of the frame A. The lower edge of this jaw B is counterbored to form the punch-holes 8 8, as indicated in dotted lines in the upper part of Fig. 4, and in these holes 8 8 the punches 9 9 are removably secured by means of set-screws 10 10. There may be as many of these punches used as desired, and they may be of different sizes and shapes, and there is

preferably one set opposite each die 2, as shown in Fig. 1. One end of the jaw B is channeled out, as at 11, (see the upper portion of Fig. 5,) to receive the blade 12 of the shears, it being held in place by means of set screw or screws 13. This blade 12 preferably inclines more or less, as shown in Fig. 1, to give the required shearing effect.

A wrought-iron plate 14 is secured to the jaw B by bolts or other means 15 15, and the outer ends of this plate are turned to form bearings 16 16, and links 17 17 extend from these bearings to the eccentrics 18 18 on the eccentric-shaft 19, and on the eccentric-shaft a cog-wheel 20 is keyed or otherwise secured, and this wheel 20 is rotated by means of the pinion 21 on the drive-shaft 22. Clutches and levers (not shown) are provided for controlling the motion of the drive-shaft. In this way the machine is under perfect control. Powerful leverage results from the arrangement of parts and the application of power, while at the same time the parts of the mechanism are simple and few in number and sufficiently large to afford adequate strength to withstand the strain to which such a machine is necessarily subjected.

Slight changes might be resorted to in the form and arrangement of the several parts described without departing from the spirit and scope of my invention, and hence I do not wish to limit myself to the exact construction herein set forth; but,

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In power punches and shears, the combination with a base and frame, of a reciprocating jaw, said jaw channeled at one end to receive a blade, and punches received in holes therein, the base being channeled to receive dies and a cutting-blade therein, which aline approximately with the blade and punches in the jaw.

2. The combination with a base and frame, the base having its upper edge channeled to receive a blade and punch dies, they being approximately in alinement with each other, and means for securing said blades and dies in position, of a jaw constructed and adapted to be guided and reciprocated in the frame, said jaw having a channel and holes therein, a blade secured in the channel and punches in the holes approximately in alinement with one another, and means for reciprocating the jaw, said means comprising a drive-shaft, an

eccentric-shaft, intermeshed gearing on said shafts, and links extending from the eccentric-shaft to the reciprocating jaw.

3. In power punches and shears the combination with a frame comprising a base and
5 uprights, of a jaw guided by the frame, a plate secured to the jaw and having bearings on its ends, the jaw carrying punches and a
10 cutting-blade, and the base having dies and a cutting-blade, and shafts having intermeshed

gears, one of said shafts having cranks thereon and links extending from the cranks to the bearings on the plate.

In testimony whereof I affix my signature in presence of two witnesses.

LEWIS VAN DORIN.

Witnesses:

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CHAS. L. ALLISON.