

(No Model.)

2 Sheets—Sheet 1.

G. S. PORTER.
CUTTING PRESS FOR LEATHER, &c.

No. 263,214.

Patented Aug. 22, 1882.

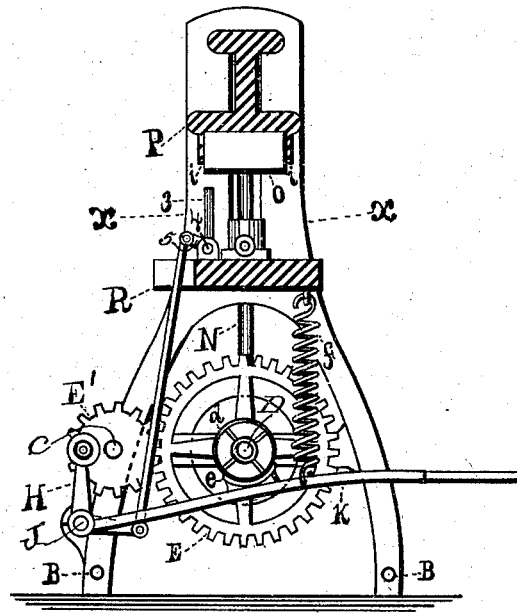


Fig 1

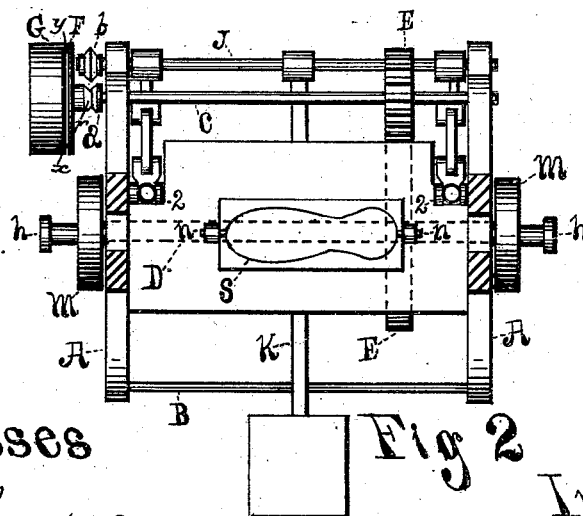


Fig 2

Witnesses

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R. M. Johnson

Inventor
George S. Porter
by
C. B. Fiddle
his
Attorney

(No Model.)

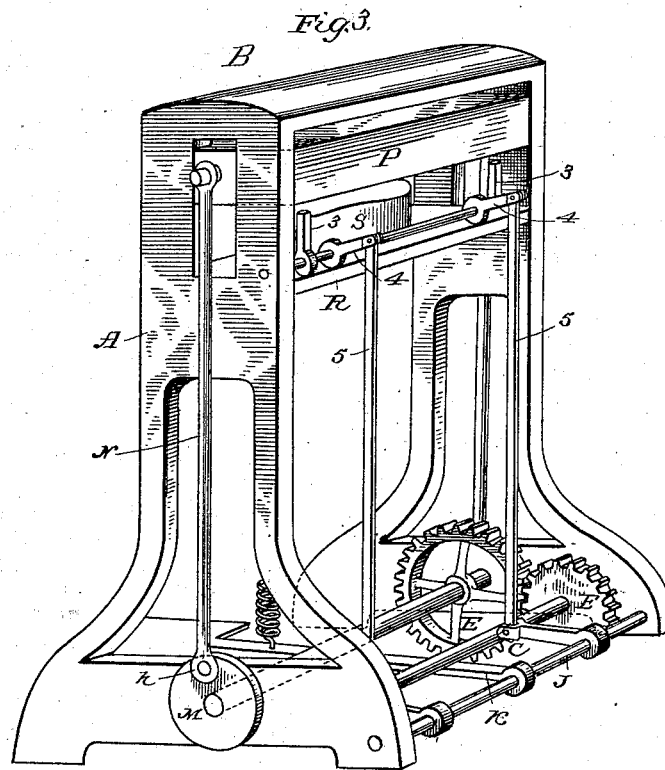
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Attest:

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UNITED STATES PATENT OFFICE.

GEORGE S. PORTER, OF LYNN, MASSACHUSETTS.

CUTTING-PRESS FOR LEATHER, &c.

SPECIFICATION forming part of Letters Patent No. 263,214, dated August 22, 1882.

Application filed March 28, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE S. PORTER, of Lynn, in the county of Essex and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Cutting-Presses, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to an improvement upon cutting-presses used for cutting leather and various fabrics, and has for its object to provide means whereby accidents shall be avoided in case the brake for stopping the machine should fail to perform its function.

Figure 1 gives an end view of a cutting-press with my improvement applied thereto, the end frame being removed to better exhibit the inside works. Fig. 2 shows a plan view of a section of the machine, the cutting-plane being made to pass through line *xx*, Fig. 1. Fig. 3 is a perspective view of the machine.

A A are the end frames of the machine, connected together by the tie-rods *B B*, and having mounted thereupon, in suitable bearings, the driving-shaft *C* and crank or eccentric shaft *D*, geared together by the spur-gear *E* and pinion *E'*. On the driving-shaft *C* is a disk, *F*, arranged to move along the shaft, but made to turn therewith in any ordinary and well-known manner by means of a groove in the shaft and a key in the hub of the disk. (Not shown.) Said disk is provided with suitable clutch-pins, *x y*, (Fig. 2,) adapted to engage with loose pulley *G*, mounted upon the end of the driving-shaft *C* in such manner as to turn freely thereon when not in contact with the disk *F*.

a is a collar or hub firmly secured to the shaft *C*, contiguous to the disk *F*, with sufficient room between to allow of a slight reciprocating motion of said disk along its shaft to engage it with or disengage it from the belt-pulley *G*, and compel the shaft to revolve with the pulley in a well-known manner. The contiguous ends of the hub *r* of the disk *F* and the collar *a* are made conical in opposite directions, so as to form a V-shaped groove between them, into which fits the double conical truck *b*, which is mounted upon a suitable axle-pin in the forked rod *H*, mounted upon and secured to the rocker-shaft *J*, mounted in suitable

bearings in the frame *A*, and provided with the treadle *K*, as shown. Said treadle-lever *K* has mounted thereon the brake-shoe *e*, arranged to partly embrace and at times to press, by means of spring *f*, against the pulley *d*, secured upon the crank-shaft *D*, for the purpose of stopping the machine. The shaft *D* carries on each end a disk, *M*, provided with wrist-pin *h*, to which is connected one end of a rod, *N*, the upper end of which is jointed to the end of the cross-head *P*. The cross-head is guided in its up and down movements by slots in the frame *A A*, in which the ends of the cross-head slide. The cross-head is provided with ribs *i* on its under side, between which is secured the wooden cutting-block *O*.

The bed *R* is secured at its ends to the frame *A*, and on its top face is placed the cutting-knife *S*, to be made of the form of the article to be cut. The knife is held in position by suitable set-screws, *n*, and is vertically adjustable, all in a manner well known to the art.

In operating a machine constructed as described the workman places the material to be cut upon the cutting-knife *S*, and then places one foot upon the treadle-lever *K* and depresses the same, thereby removing the brake from the pulley *d* and at the same time pressing the conical truck *b* into the V-shaped groove formed between the collar *a* and clutch *F*, thus forcing the clutch into engagement with pulley *G*. Thereupon the shaft *C* begins to turn and imparts motion through the gears *E' E* to the shaft *D*, causing it to revolve, so as to reciprocate the cross-head *P*, thus forcing the cutting-block *O* down upon the cutting-knife and stamping out the intended blanks. When the cross-head goes up the foot is removed from the treadle *K*, allowing the clutch *F* to disengage from the pulley *G*, and the spring *f* operates to press the brake *e* up against the pulley *d* to stop the machine. The workman then removes the blanks already cut and places a new piece in position to be cut, when the cutting-block comes down by starting the machine up, as before.

The foregoing is a description of one of the well-known cutting-presses now in common use.

In operating this class of machines it sometimes happens that the brake-shoe *e*, either by reason of scraps falling into the same or for

some other cause, fails to press against the pulley to stop the machine. In such case the momentum of the machine is sufficient to bring the cross-head P down a second time before the machine stops. This, however, the workman is not expecting, and from force of habit he begins to remove the blanks and place a new piece in position, even before the cross-head reaches its extreme upward throw, so that when it comes down thus unexpectedly he is usually at work over the cutting-knife. Many accidents occur in this way, and often result in loss of fingers or other more serious damage. To provide suitable and positive means whereby this liability to accident shall be avoided is the object of my present invention. To this end vertical lugs or standards are mounted upon the bed R, and in these a small shaft is mounted, upon which shaft, and securely fixed thereto, is a vertical pin, 3, and horizontal arm 4. In the drawings (see Fig. 3) two such pins are shown, though one or more may be used. The arm 4 is connected by link 5 with a crank-arm on rocker-shaft J. From this it must be evident that when the treadle is depressed for the purpose of starting up the machine, as before described, the motion of the shaft J operates to throw down the pins 3 in an obvious manner to permit the descent of the cross-head for the purpose of pressing out the intended blanks; but when the foot is re-

moved from the treadle K the spring *f* operates to lift the treadle, thus reversing the shaft J and straightening up the pins 3, and should the brake now fail to act, or the cross-head for any reason attempt to again descend before the treadle is depressed, it will strike upon the pins 3 and be arrested and held upward thereby.

What I claim is—

1. In a cutting-press having an automatic brake connected to the treadle, a safety device consisting of one or more stop-pins connected to the brake mechanism, and held normally thereby in the path of the cutting-die, and adapted by the depression of the treadle and release of the brake to be removed from the path of the cutting-die, substantially as described.

2. The combination of the spring-treadle K, carrying the brake-shoe, with a rock-shaft, J, the shaft 4, carrying the stop-pins, and the connecting links and rods, whereby the movement of the treadle in releasing the brake rocks the shaft 4 and removes the stop-pins from the path of the cutting-die.

In testimony whereof I have signed this specification in the presence of two witnesses.

GEORGE S. PORTER.

Witnesses:

SETH H. WOODBURY,
C. B. TUTTLE.