

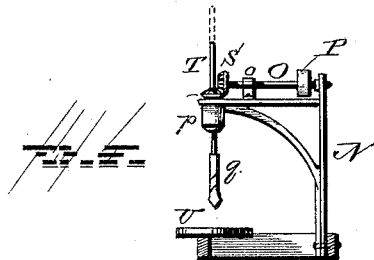
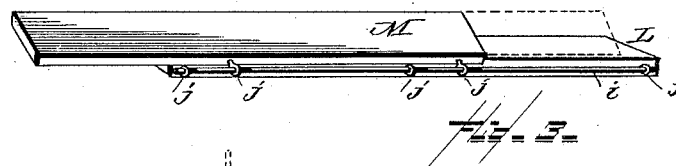
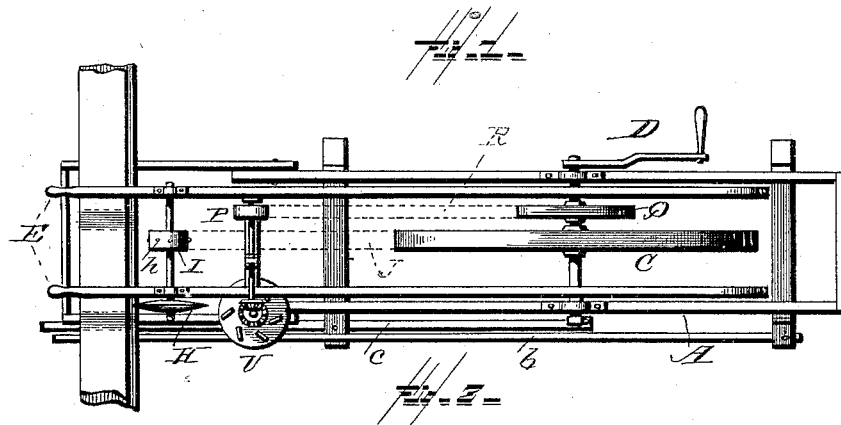
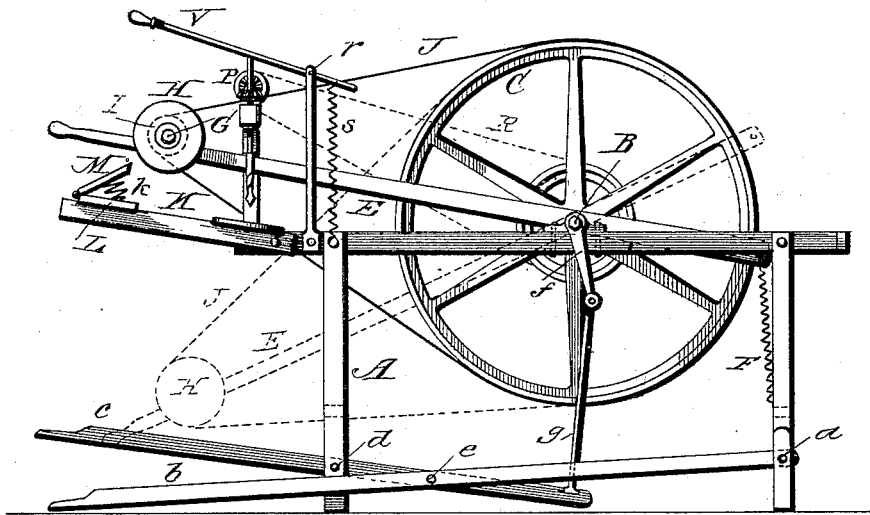
(No Model.)

F. L. ADAMS.

COMBINED HORSESHOE SHARPENER, DRILL, AND SAW GUMMER.

No. 422,045.

Patented Feb. 25, 1890.



Witnesses

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E. A. Bond.

Inventor

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By *his* Attorney

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UNITED STATES PATENT OFFICE.

FRANK L. ADAMS, OF SAGINAW, MICHIGAN.

COMBINED HORSESHOE-SHARPENER, DRILL, AND SAW-GUMMER.

SPECIFICATION forming part of Letters Patent No. 422,045, dated February 25, 1890.

Application filed June 29, 1889. Serial No. 316,038. (No model.)

To all whom it may concern:

Be it known that I, FRANK L. ADAMS, a citizen of the United States, residing at Saginaw, in the county of Saginaw and State of Michigan, have invented certain new and useful Improvements in Combined Drill, Horseshoe-Sharpener, and Saw-Gummer; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

This invention relates to certain new and useful improvements in combined drills, saw-gummers, and shoe-sharpeners, and it has for its objects to provide a machine by means of which articles may be drilled, saws gummed, and horseshoes sharpened without any material alteration in the parts of the machine; also to so construct and arrange the parts that the various operations may be carried out with ease and rapidity.

The invention consists in the peculiar combinations, and the construction, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the drawings, and then particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a side elevation of a machine embodying my improvements. Fig. 2 is a top plan of the same. Fig. 3 is a detached perspective view of the saw-rest. Fig. 4 is a side elevation of a portion of the drill-operating mechanism detached.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letter, A designates a suitable frame designed to support the operating parts.

B is a transverse shaft journaled in suitable bearings on the longitudinal timbers of the frame. This shaft carries the pulley C, to which motion is designed to be imparted either by means of the crank and handle D on the extended end of said shaft or by means of treadles arranged as follows: Pivoted at its rear end, as at *a*, to the frame is a treadle *b*, the other end of which extends to within

convenient reach of the operator. A shorter treadle *c* is pivoted between its ends, as at *d*, to the front part of the frame, and between its pivot and its rear end it is pivoted to the treadle *b*, as at *e*. The rear end of the short treadle is connected with the crank *f*, attached to the shaft B by means of the pitman or connecting rod *g*.

Fulcrumed on the shaft B is a lever E, the rear end of which is connected with the frame A by means of a suitable spring F, and between these levers E, (there being one near each side of the machine,) near the front end thereof, is journaled the transverse shaft G, carrying the emery-wheel H and pulley I.

J is an endless belt connecting the pulley C with the pulley I, whereby motion is communicated from the pulley C to the pulley I and to the emery-wheel. The pulley I is preferably provided with projections *h* to increase its grip on the belt.

Detachably secured to the front part of the frame A is the saw-rest carried by a base K, attached to the frame by means of suitable fastenings, which may be readily removed when the device is to be used as a shoe-sharpener. The rest proper consists of a plate L, attached to the outer edge of the base and provided with a guide-rod *i*, on which the upper plate M is designed to be longitudinally adjustable by means of the eyes *j*, the said upper plate being yieldingly supported on the under plate by means of springs *k*.

With the parts in the position in which they are shown in full lines in Fig. 1 the same are designed to be employed for gumming saws. The saw is placed upon the saw-rest and the gummer or emery-wheel brought into contact therewith by the manipulation of the levers E.

When to be used for sharpening horseshoes the saw-rest and its base is detached and the parts brought into the position in which they are shown by dotted lines in Fig. 1, the shoes being designed to be sharpened without removing them from the feet of the horse.

N is a bracket or arm attached to the frame A, near the front end thereof, and carrying at the upper end thereof a transverse shaft O, on which is a pulley P, in line with a pulley Q on the shaft B, the two pulleys being

connected by means of an endless belt R, by means of which motion is communicated from the pulley Q to the shaft O. A suitable bearing *o* is provided on the bracket for the other
5 end of the shaft O.

S is a bevel-pinion on the shaft O, meshing with a like pinion on the drill-stock T, which is guided by the guide *p* on the bracket N.

U is the holder for the article to be operated upon by the drill *q* carried by the drill-stock.
10

V is a lever pivoted at *r* to a standard on the frame, and having one end connected to the frame by means of a spring *s*. This lever
15 is designed to regulate the position of the drill.

It will be seen from the above description that I have devised a machine which is adapted for the various purposes set forth
20 without materially altering any of the parts, and if so desired, articles may be drilled and horseshoes sharpened at the same time.

What I claim as new is—

1. The combination, with the frame, of the
25 levers E fulcrumed on the driving-shaft, an emery-wheel carried by a shaft on said levers, and means for imparting motion to said emery-wheel, whether the same be in a raised or depressed position, substantially as herein shown
30 and described.

2. The combination, with the frame and drive-shaft, and pulley, of the emery-wheel operated from connections with the drive-shaft, and the saw-rest operating in conjunction with the emery-wheel, substantially as
35 shown and described.

3. The combination, with the frame, the drive-shaft and pulley, of the levers fulcrumed on said shaft, the emery-wheel carried by a shaft journaled in said levers, connections between said shaft and the drive-shaft, and the saw-rest detachably connected to the frame, substantially as shown and described.
40

4. The combination, with the frame, the drive-shaft, and pulley, of the long lever pivotally connected at one end to the frame, the short lever pivoted to the frame between its ends, and also pivotally connected between its ends to the long lever, the crank on the
50 drive-shaft, and the rod connecting the rear end of the short lever with said crank, substantially as shown and described.

5. The combination, with the frame, the drive-shaft, and the pulleys on said shaft, of the emery-wheel driven from connections with said shaft, and the drill driven also by connections with said shaft, substantially as herein shown and described.
55

6. The saw-rest described, consisting of the lower plate, the upper plate lengthwise adjustable thereon, and the springs between the two for yieldingly supporting the upper plate, substantially as shown and specified.
60

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.
65

FRANK L. ADAMS.

Witnesses:

W. L. CASE,

J. T. PHILLIPS.