

(No Model.)

J. W. DARLEY, Jr.
SHEET LIFTING AND COUNTING DEVICE.

No. 500,379.

Patented June 27, 1893.

Fig. 1.

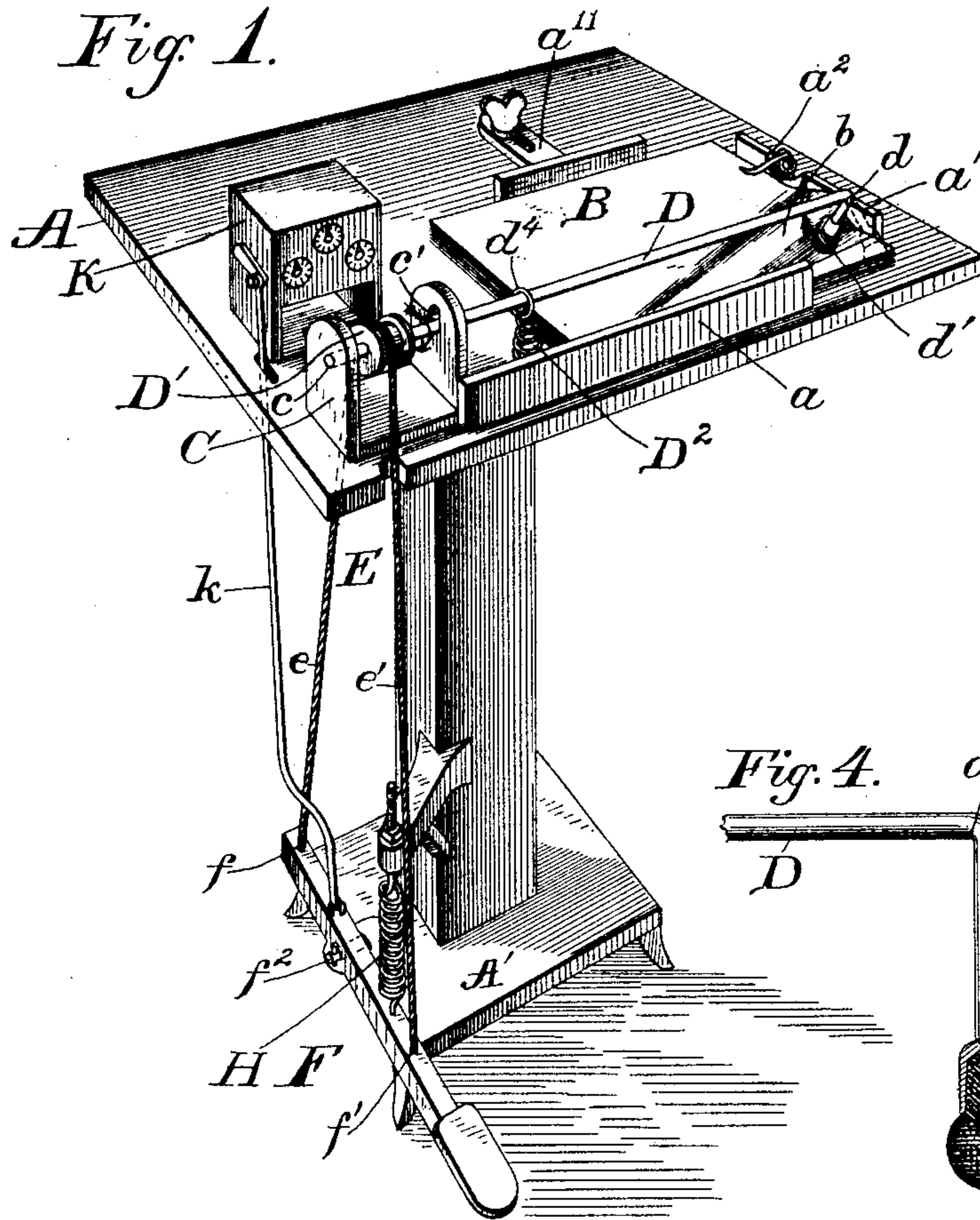


Fig. 4.

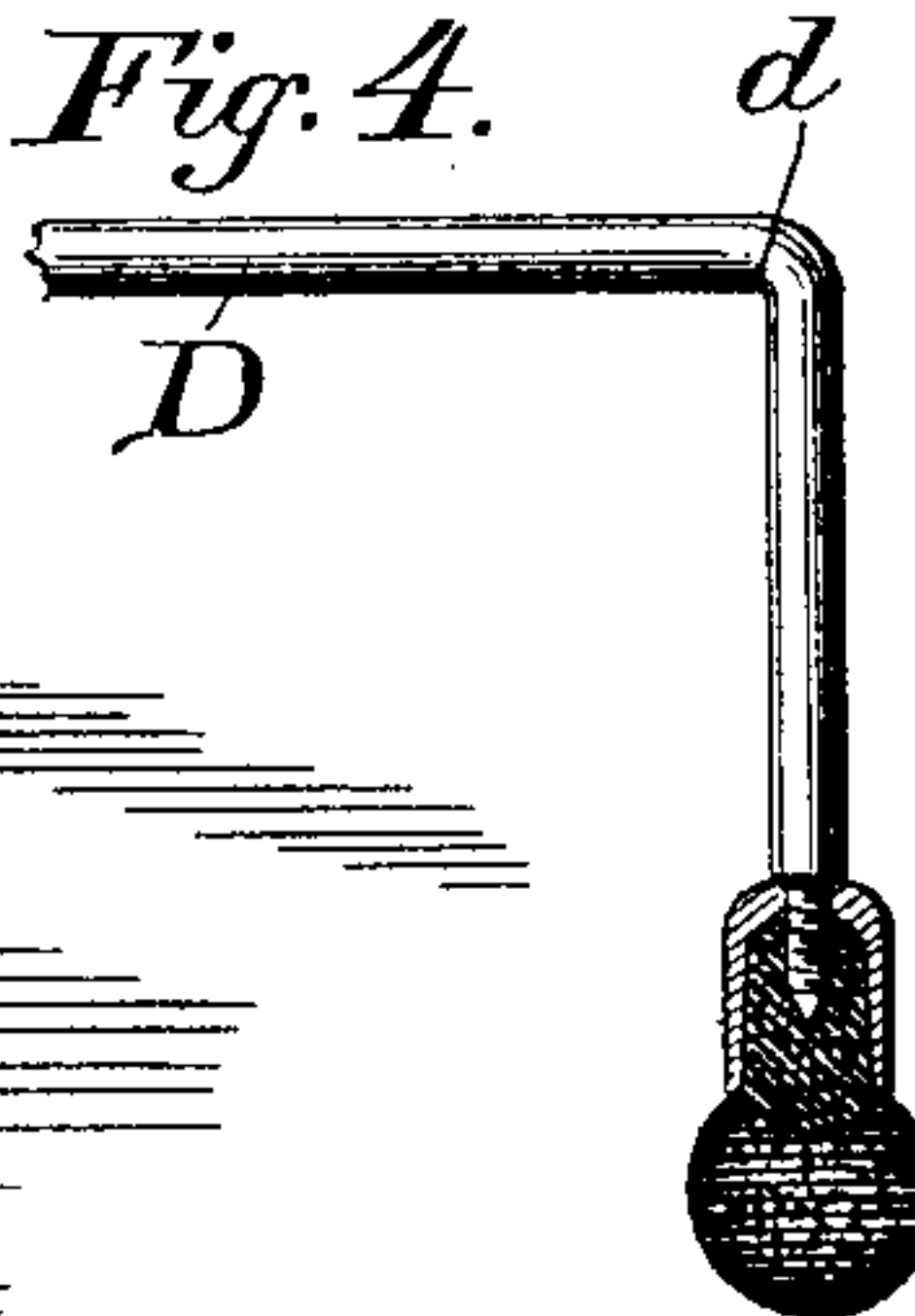


Fig. 5.d

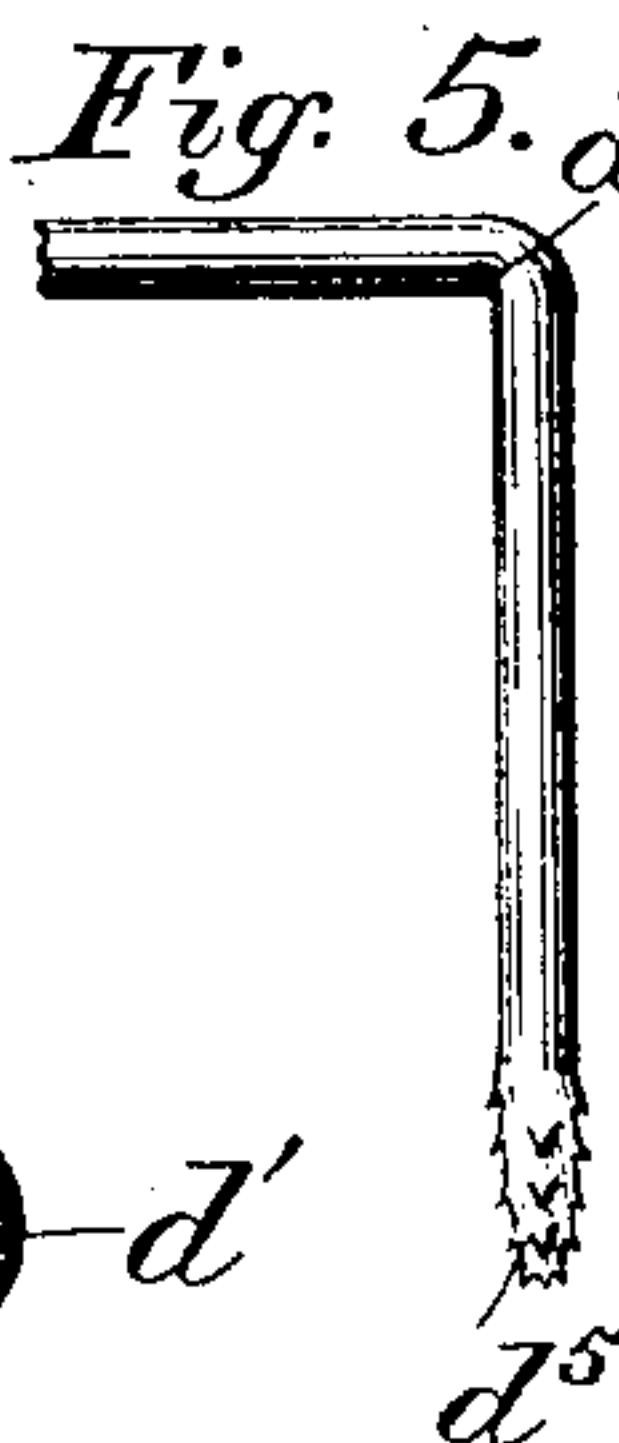
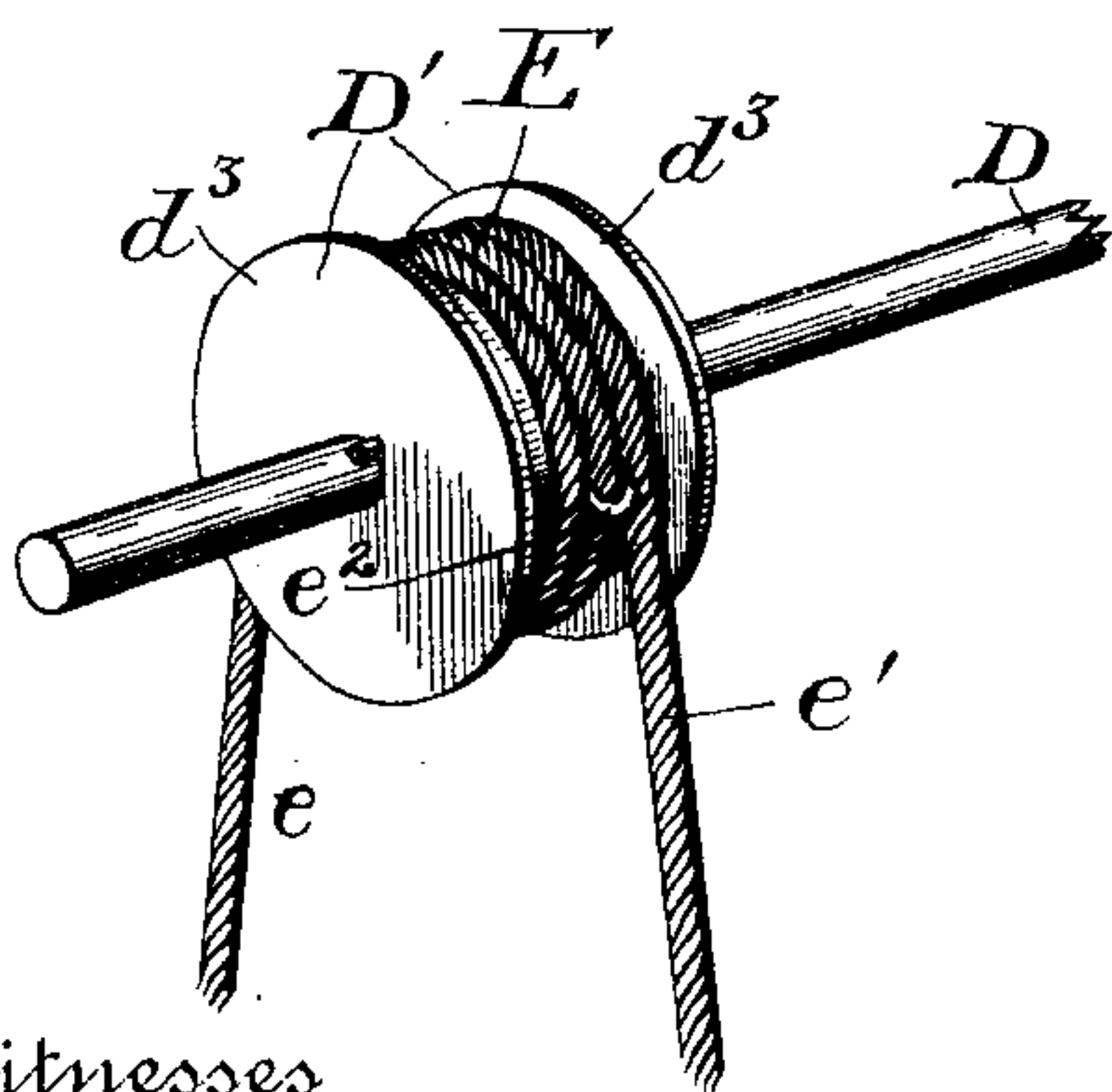


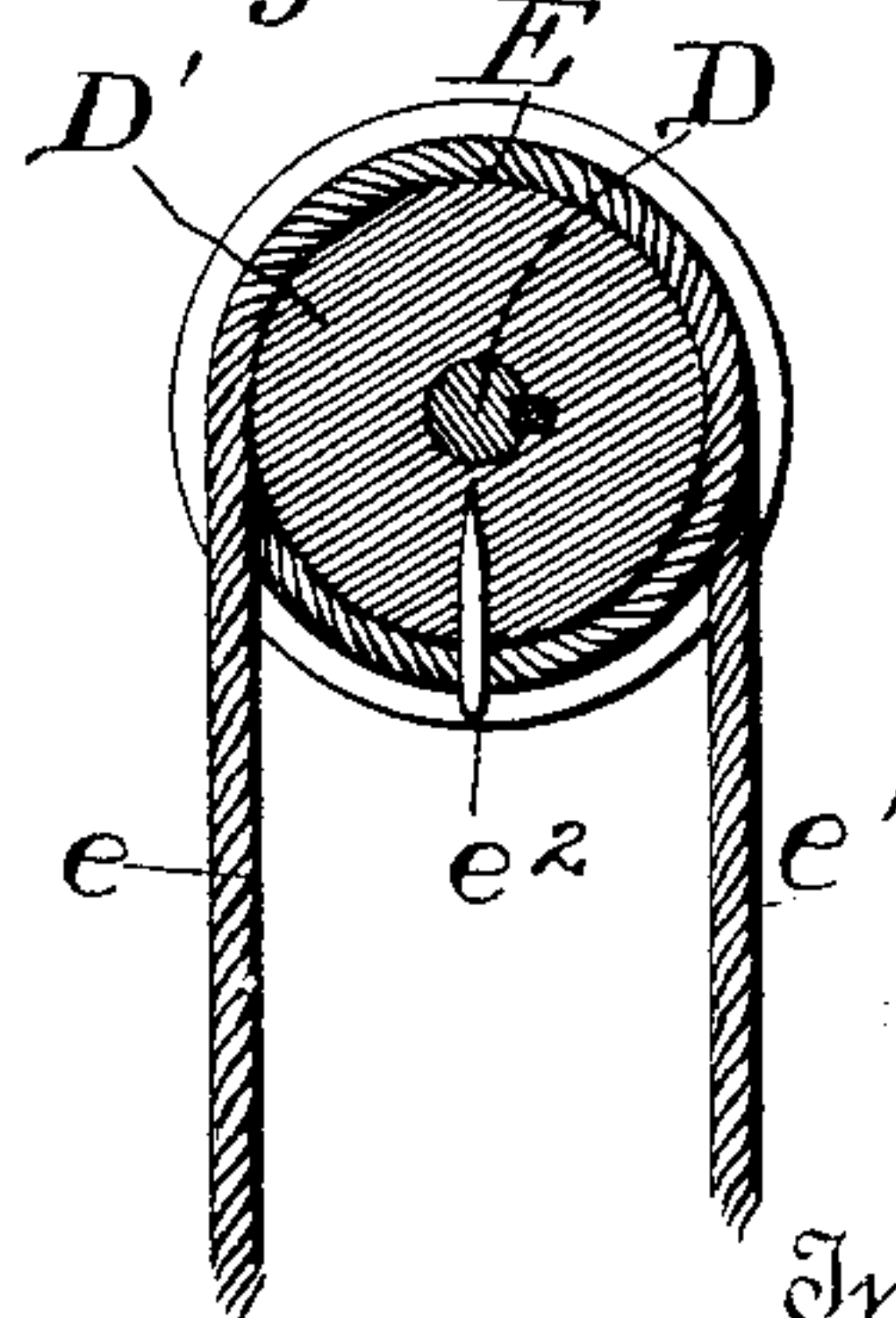
Fig. 2.



Witnesses

Percy C. Bowen.
John C. Wilson.

Fig. 3.



Inventor

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UNITED STATES PATENT OFFICE.

JOHN W. DARLEY, JR., OF SCHENECTADY, NEW YORK, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF ONE-HALF TO DAVID E. EVANS, PHILIP HAMBURGER, MICHAEL HOLZMAN, AND LEON HAMBURGER, OF BALTIMORE, MARYLAND.

SHEET LIFTING AND COUNTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 500,379, dated June 27, 1893.

Application filed June 7, 1892. Serial No. 435,880. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. DARLEY, Jr., a citizen of the United States, residing at Schenectady, in the county of Schenectady and State of New York, have invented certain new and useful Improvements in Sheet Lifting and Counting Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in sheet lifting and counting devices, for use in printing presses, banks, stationery stores, and in such other places as it may be found capable of employment.

It consists essentially of a bent rod or wire having an arm with an adhesive tip, the said arm being caused to rotate alternately in opposite directions by suitable mechanism attached thereto. The operating mechanism is, or may be constructed in a variety of ways, and may be operated by a crank, treadle, or other mechanism adapted to give a vibratory motion.

A simple form of device for operating the bent wire is shown in the accompanying drawings, wherein—

Figure 1 represents a perspective view of a table provided with a frame for supporting the revolving rod or wire, and a treadle for operating the same. Fig. 2 represents a perspective view of the drum or pulley, and represents the method of attaching the operating cord thereto. Fig. 3 represents a central section of the said pulley at right angles to the shaft. Fig. 4 represents an enlarged view of the bent arm, provided with a rubber tip for picking up the sheets of paper or other material. Fig. 5 represents a similar arm provided with a serrated tip, instead of the rubber ball.

A represents the top of the table or platform, and A' represents the base of the same.

B represents a pad or pile of sheets of paper to be raised singly by the device, the top sheet being represented as about to be lifted.

C represents a frame having journals *c* and *c'* therein for the revolving wire D. This frame

is rigidly attached to the platform A, and one of the journals either *c* or *c'* is arranged so as to give a vertical play to the rolling rod or wire D. This rod or wire is bent at *d* and carries a tip *d'* or *d''* as seen in Fig. 5, whose coefficient of friction with paper is greater than that between two sheets of paper. This tip is preferably made of rubber containing gritty material, of the form shown in Fig. 4, or the wire may be simply serrated as shown in Fig. 5. The wire is pressed down on the paper by a spring D², having a ring *d*⁴ in which the said wire revolves freely. Rotary motion is given to the wire by the cord E which passes over the drum D' rigidly attached to the said wire. The cord preferably passes three or four times around the said drum, and its center may be secured by a staple *e*², which prevents the said cord from slipping on the said drum and thus altering the relative lengths of the parts *e* and *e'* of the cord which are connected to the treadle F at *f* and *f'*. Midway between these points *f* and *f'* the treadle is pivoted, as at *f*², and the spring H serves to give the reverse motion to the pedal after it has been pressed down.

Guard pieces *a* and *a'* and an adjustable guide piece *a*² may be secured to the platform, for convenience in manipulating the pile of sheets to be lifted singly, and to prevent the displacement of any of the sheets by the motion of the point *d'* on its return back to the initial position or in a direction opposite to that indicated by the arrow in Fig. 1. A spring clip *a*² may also be provided to stiffen and steady the pile of paper, and this is especially desirable where the material is very thin or flexible. A register K connected by a rod *k* to the treadle, may also be added.

The operation of the device is as follows:—The end *d'* of the arm being in the initial position, shown in dotted lines in Fig. 1, if the treadle be pressed down, the drum D' will be revolved in the direction shown by the arrow, and the end *d'* of the arm of the rolling wire will push the corner of the top sheet of paper to the left as shown, when the paper has been raised a small distance, it will bend on itself,

and the tip *d'* will be under a loop. If now the rotary motion of the wire be reversed, as will be done by the spring H upon raising the foot from the treadle, the tip *d* will return 5 to the initial position, and a second pressure on the treadle will raise the corner of the second sheet and so on for the other sheets. The motion of the treadle and thus of the rolling wire may be regulated by the skill of the attendant or by any mechanical means. The 10 rotary motion of the wire should preferably be about three quarters of a revolution in each direction. It will be seen that the sheets will be pushed aside *seriatim*, and if a device for 15 removing the sheets be attached or a register K for counting the number of movements in one direction of the rolling wire, the said sheets may be removed singly or counted.

While I have described the device as used 20 upon pads or piles of sheets of paper; it is equally efficient in raising the corners of or counting a number of superimposed lengths of thin materials such as calico, linen, and the like.

25 The device with a register may be depended upon to count without error piles of bank notes, ballots, tickets, &c.

Having thus described my invention, what I claim, and desire to secure by Letters Patent 30 of the United States, is—

1. The combination of a rod or wire yieldingly mounted in a frame, and having a bent arm with an adhesive tip; and means for turning said rod or wire about its axis through 35 any desired arc alternately in either direction, substantially as and for the purposes described.

2. The combination with a suitable platform, of a rolling rod or wire yieldingly mounted thereon, the said rod or wire having a bent 40 arm, and an adhesive tip to said arm; and means for turning said rod or wire about its axis through any desired arc, alternately in either direction, substantially as and for the purposes described. 45

3. A device for producing folds in and counting leaves, comprising a rolling rod or wire having a bent arm, an adhesive tip on said arm, mechanism for turning said rod or wire about its own axis through any desired arc, 50 alternately in either direction; and a counting device operated by said mechanism, substantially as and for the purposes described.

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

JOHN W. DARLEY, JR.

Witnesses:

FREDK. A. PHELPS, Jr.,
H. F. T. ERBEN.