(No Model.)

N. D. RUSSELL.

JACK SCREW.

No. 459,769. Patented Sept. 22, 1891.

FIG. 1.

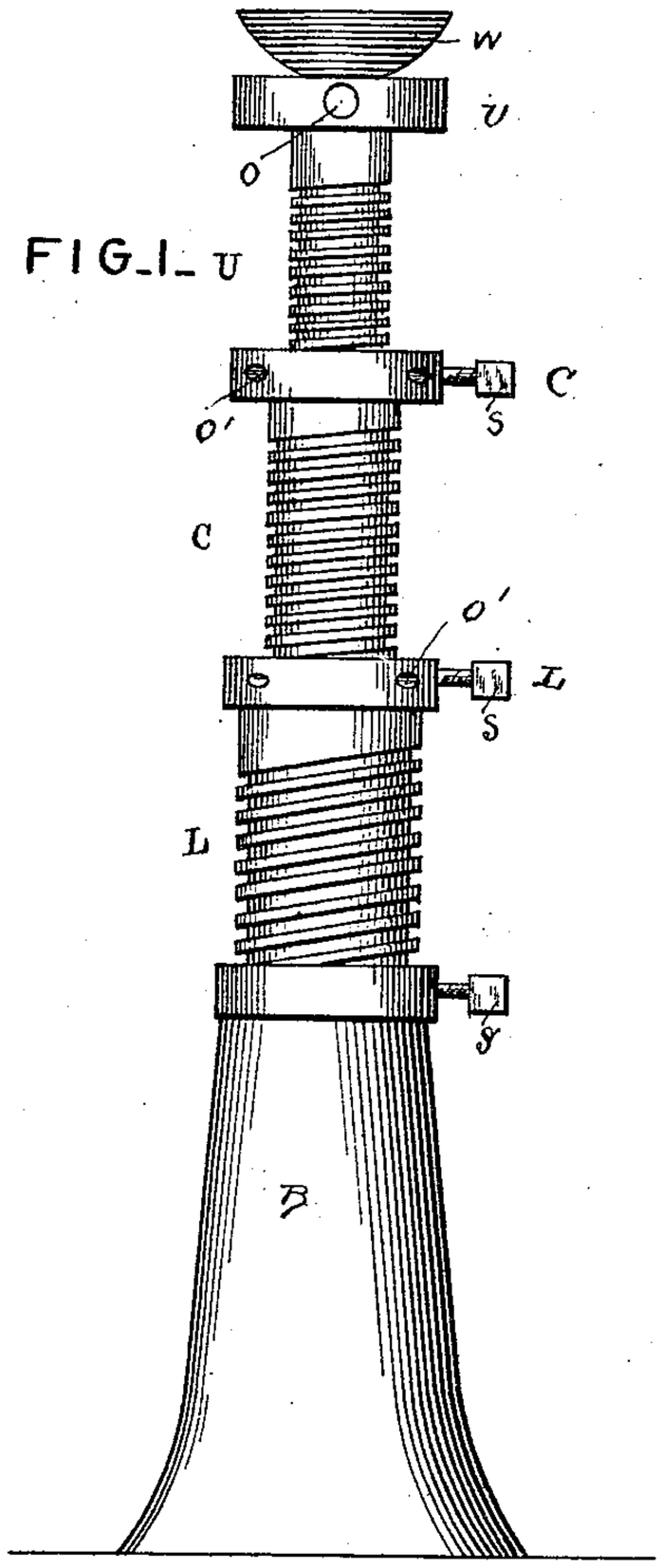


FIG. 2.

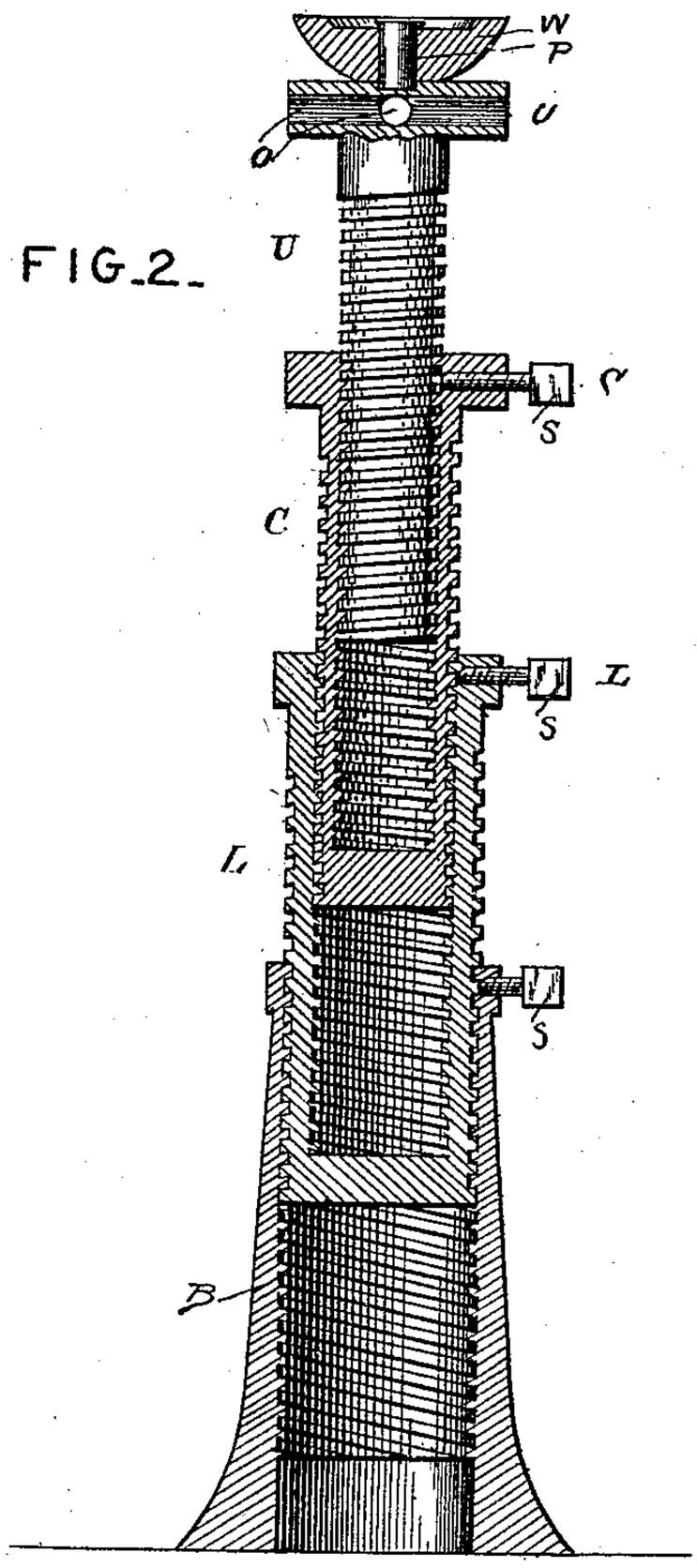


FIG. 4.

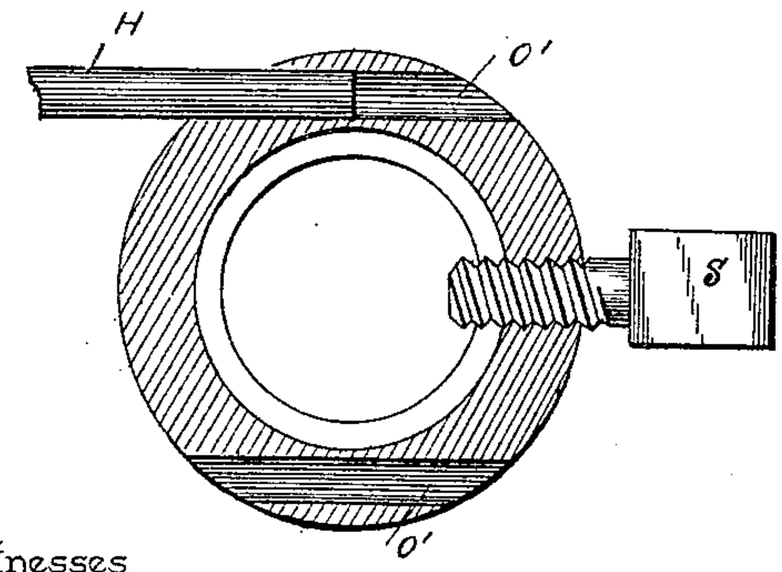
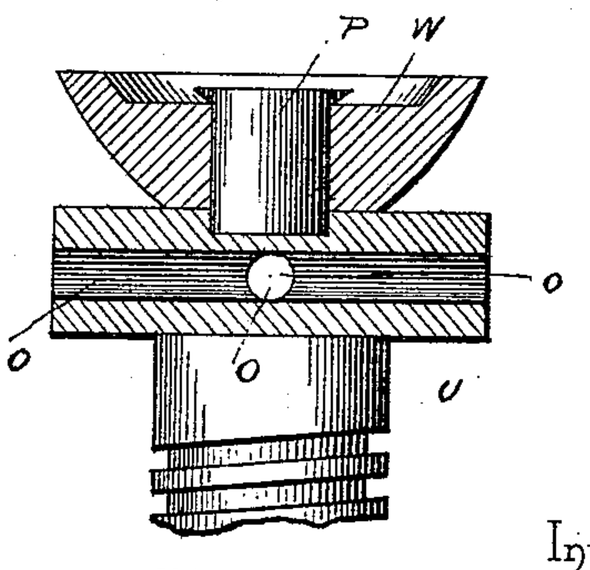


FIG. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

NATHANIEL D. RUSSELL, OF LACONIA, NEW HAMPSHIRE.

JACK-SCREW.

SPECIFICATION forming part of Letters Patent No. 459,769, dated September 22, 1891.

Application filed March 17, 1891. Serial No. 385,424. (No model.)

To all whom it may concern:

Be it known that I, NATHANIEL D. RUSSELL, a citizen of the United States, residing at Laconia, in the county of Belknap and State of New Hampshire, have invented a new and useful Jack-Screw, of which the following is a specification.

This invention relates to the jack-screws generally used in raising heavy weights; and the object of the same is to effect certain improvements thereon.

To this end the invention consists of the specific details of construction hereinafter more fully described and claimed, and as illustrated in the sheet of drawings, wherein—

Figure 1 is a side elevation of this improved jack partly unscrewed. Fig. 2 is a central vertical section of the same, the upper member being partly in elevation. Fig. 3 is an enlarged vertical section through the center of the head of the upper member. Fig. 4 is a horizontal section through the head of the lower member.

Referring to the said drawings, the letter B designates a suitable base, into whose upper end is screwed the lower screw member L, which is tubular. Into this member is screwed the center screw member C, which is also tubular, and into the latter member is screwed the upper screw member U, which is solid, and a washer W is swiveled by a pin P to the center of the head of the upper member, the edges of the washer being raised so as to take the superimposed weight off the head of the pin and permit the head of the member to turn beneath the washer, as is obviously necessary in the operation of the device.

I have shown in the drawings a jack comprising three screw members; but I desire it to be understood that I may employ but two or any number greater than one. The threads are here shown as of different pitch; but the pitch may be the same, if preferred. Each of the screw members is composed of a threaded shank, as shown, and an enlarged head having holes for the reception of a bar or handle H, by means of which the member may be turned. The holes or openings O through the head of the upper member U passes diametrically through the same, preferably at right angles to each other, as shown in Fig. 3 and as will be clearly understood; but in those members where the threaded shank of the member above screws through the head it will be obviously impossible to pass the handle completely through the head, even if the openings O were so made. Hence in those screw members other than the upper member I arrange the openings O′ in parallel chords, as shown in Fig. 4, and the handle H may be inserted in an obvious manner.

The letters S designate set-screws, which are seated in the heads of the screw members and base, as best seen in Fig. 4, and are adapted to be screwed home, so as to impinge upon the threaded shank of the member within and to prevent the turning thereof in either direction.

In operation the jack is brought into position with the washer W under the load to be lifted. If it be desired to lift the load slowly for a short distance and by the exercise of comparatively little force, the handle is inserted in one of the openings O and the upper member U turned in the proper direction. To lift the load more rapidly and with the exercise of less power, lower screw members might be turned by inserting the handle H in the openings O′, as will be obvious. In either case all the set-screws S are tightened, except the one below the head in which the handle is inserted. It very frequently occurs, however, that the load is to be lifted for a considerable distance, and this can be accomplished by my improved jack in the following manner: The lower screw member is first unscrewed, so as to raise the load for nearly the length of this member and the set-screw in the head of the base tightened to hold the member in elevated position. The next member is then unscrewed in a similar manner and the set-screw in the head of the lower member tightened, and so on up to the uppermost member, which may be held elevated by the set-screw in the head of the member next below. If it were not for the set-screws, the members could not be turned independently. Hence I consider their use highly desirable.

What is claimed as new is—

The herein-described lifting-jack, the same comprising a base, a number of screw members screwing into each other and the lowermost one into the base, each member having

an enlarged head, the head of the uppermost member having diametric openings and the heads of the other members having openings on the chords thereof, and set-screws through the head of the base and the heads of all the members but the uppermost, as and for the purpose hereinbefore set forth.

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

NATHANIEL D. RUSSELL.

Witnesses:

S. S. JEWETT,

W. A. PLUMMER.