

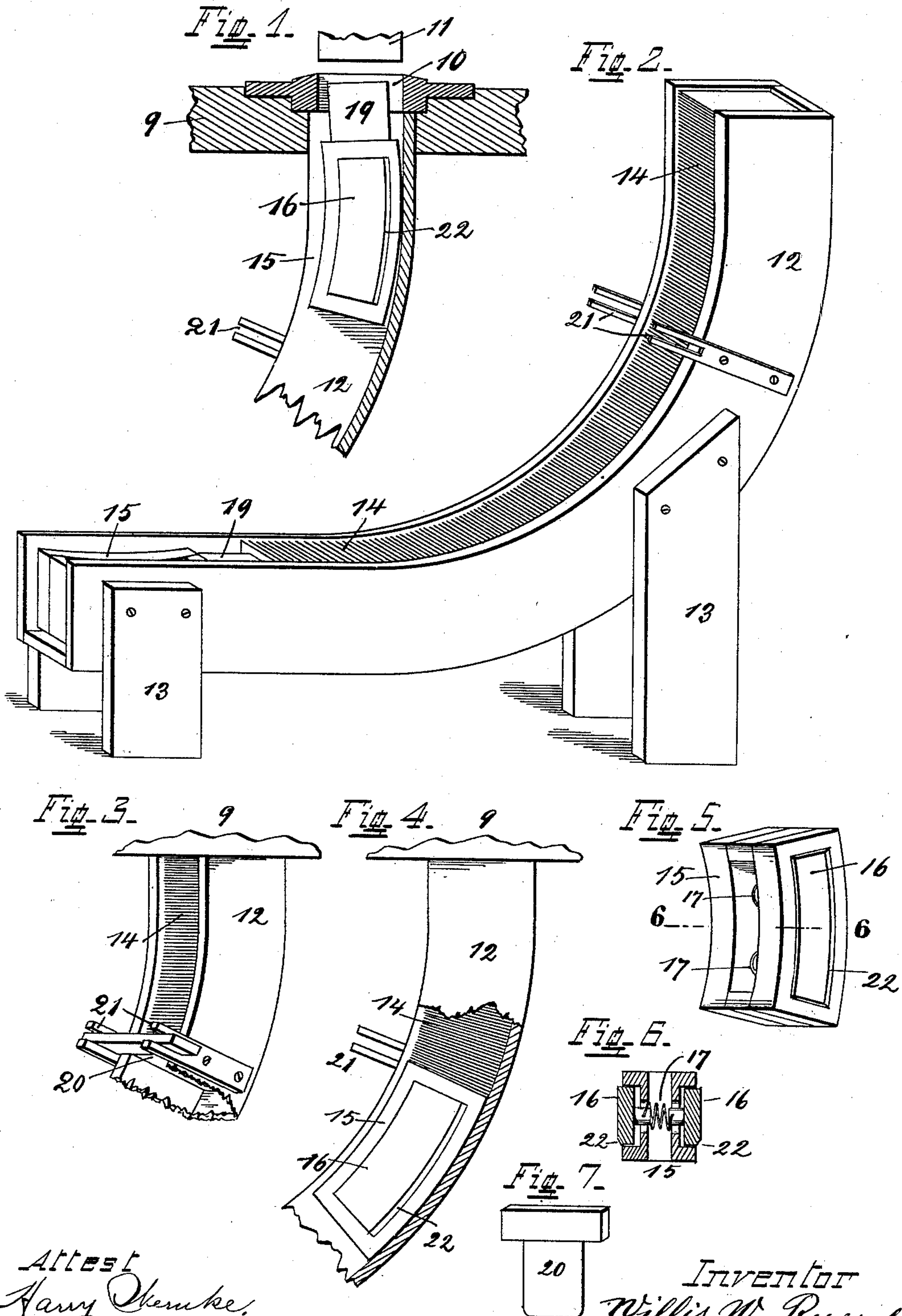
(No Model.)

W. W. RUSSELL.

RECEIVING BOX FOR PUNCHING MACHINES.

No. 413,150.

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UNITED STATES PATENT OFFICE.

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RECEIVING-BOX FOR PUNCHING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 413,150, dated October 15, 1889.

Application filed March 26, 1889. Serial No. 304,883. (No model.)

To all whom it may concern:

Be it known that I, WILLIS W. RUSSELL, a citizen of the United States, residing at Norwood, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Receiving-Boxes for Punching-Machines; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to boxes put under the die of punching-presses, such as shown in the patent of April 24, 1888, No. 381,716, or similar machines, and which are intended to receive the cards, blanks, or other articles punched out by the machine.

These boxes are generally of a size corresponding with the articles they are to receive, in order to form the latter into stacks as they drop in, and to facilitate their handling when the boxes are emptied.

Heretofore the boxes have been generally straight, and when they were filled the operator had to stop his machine while they were emptied, and the sliding support put again in position in the upper part of the box. As the boxes are only of a height corresponding with the distance of the table from the floor and the machines work very fast, the former fill in a short time, necessitating a frequent stoppage of the machines in order to be enabled to empty the boxes. Where there are many machines used, and especially during busy seasons, these many stops amount to considerable loss of time, and limit the producing capacity of the presses and operators. To overcome these defects is the object of my present invention; and it consists, principally, in the changing of the straight box into a curved one, and other alterations and constructions, which are described hereinafter, and illustrated in the accompanying drawings, in which—

Figure 1 is a side view of part of the box, its upper portion, table, and die in section, showing sliding support in position when the

machine is started. Fig. 2 shows the box in a perspective view and ready to be emptied. Fig. 3 shows in a perspective view the upper part of the box while being emptied. Fig. 4 shows in a side view, partly in section, the upper portion of the box after being emptied. Fig. 5 is a perspective view of the sliding support. Fig. 6 is a cross-section of the same on line 6 6 of Fig. 5. Fig. 7 is a perspective view of the stop.

9 is the table of the punching-press or whatever machine may be used.

10 is the die, and 11 the punch.

12 is the box, open on its front and upper side, fitting closely into the table against the under side of the die, and is supported at 13 13.

14 are the blanks, cards, or other articles which are punched out.

15 is the yielding support on which the cards or blanks rest after being punched. Two of its sides are curved to correspond with the curvature of the box. The other two sides 16 16 are yielding and pressed outwardly by two springs 17 17, which are also connected to the sides 16 16, keeping them from coming out when the support is taken out of the box. One support has an extension 19, which reaches up into the die, and is only needed when the machine first starts. At that time the position of the support is as illustrated in Fig. 1. As the blanks are being punched, they gradually accumulate and force the support down, as shown in Fig. 2. At this time the receiver is about ready to be emptied. To do this, a stop 20, held in place by two forks 21, is inserted by another employé, to form a temporary support for the blanks. Then he pushes the regular support 15 so far out toward the end of the box that the following cards create a space between them and the temporary support 20 (see Fig. 3) of sufficient size to introduce the same support 15 from the end, or a similar one. He then withdraws support 20 and proceeds to empty the box. (See Fig. 4.) While all this is being done the feeding-operator keeps right on working his machine, the temporary stop not in the least interfering, because the blanks are from the start loose enough in the receiver to allow a temporary compression in the upper part of the box

while the lower part is emptied. To facilitate the insertion of the support, the two sides 16 16 have beveled edges 22.

If it is desirable to empty the box only at 5 very long intervals, the lower portion of it, which is horizontal, or nearly so, may be made very long. The particular shape of the curvature of the box is not essential. After making the turn from under the table it may assume an inclined position, instead of being 10 round or curved.

The specific construction of the sliding support is not essential either. It must sustain the weight of the cards or blanks, but yield 15 to the descending punch when the newly-punched blanks are added and accumulating.

I am aware of the existence of curved receiving-boxes used for the same purpose. They, however, are not provided with a yielding support similarly constructed to the one 20 used in my case, and a certain quantity of cards has always to be kept in the box in order to form a support for the accumulating cards. Other receiving-boxes in existence 25 show an auxiliary removable receiving-box which has to be removed altogether in order to be emptied. These constructions, however, show many objections. The first-mentioned box needs close attention, and has to be kept 30 filled all the time, as already stated, in order to form a support for the accumulating cards. The other construction also needs close attention all the time, from the fact that, its lower

end being closed, the card or blank support will come to a dead stop if the box is not taken 35 out in time, and the latter operation is very inconvenient from the position the parts are in, and also for the reason that a receiver filled up with cards is rather heavy. In my case, the box being open at its lower end, no serious results could follow if not closely watched, 40 and the whole box need not be kept filled with cards to form a support for the same.

Having thus described my invention, I claim as new— 45

In combination with the punch and die of a punching-press or similar machine, the blank-receiving box being curved and having its front side and lower end fully open to permit the removal of the blanks or cards at any 50 point therefrom, further having a sliding support 15, being curved and shaped to correspond to the box, and having two of its sides yielding and pressed outwardly against the two opposite sides of the box by a spring, two 55 forks 21, connected opposite each other to the sides of the box, and a stop 20, held in position by said forks, as and for the purposes fully explained.

In testimony whereof I affix my signature in 60 presence of two witnesses.

WILLIS W. RUSSELL.

Witnesses:

CARL SPENGEL,
N. ROCKHOLD.