(No Model.) 2 Sheets—Sheet 1.

C. W. HASELTON.

SEAM PRESSING MACHINE.

No. 366,582. Patented July 12, 1887.

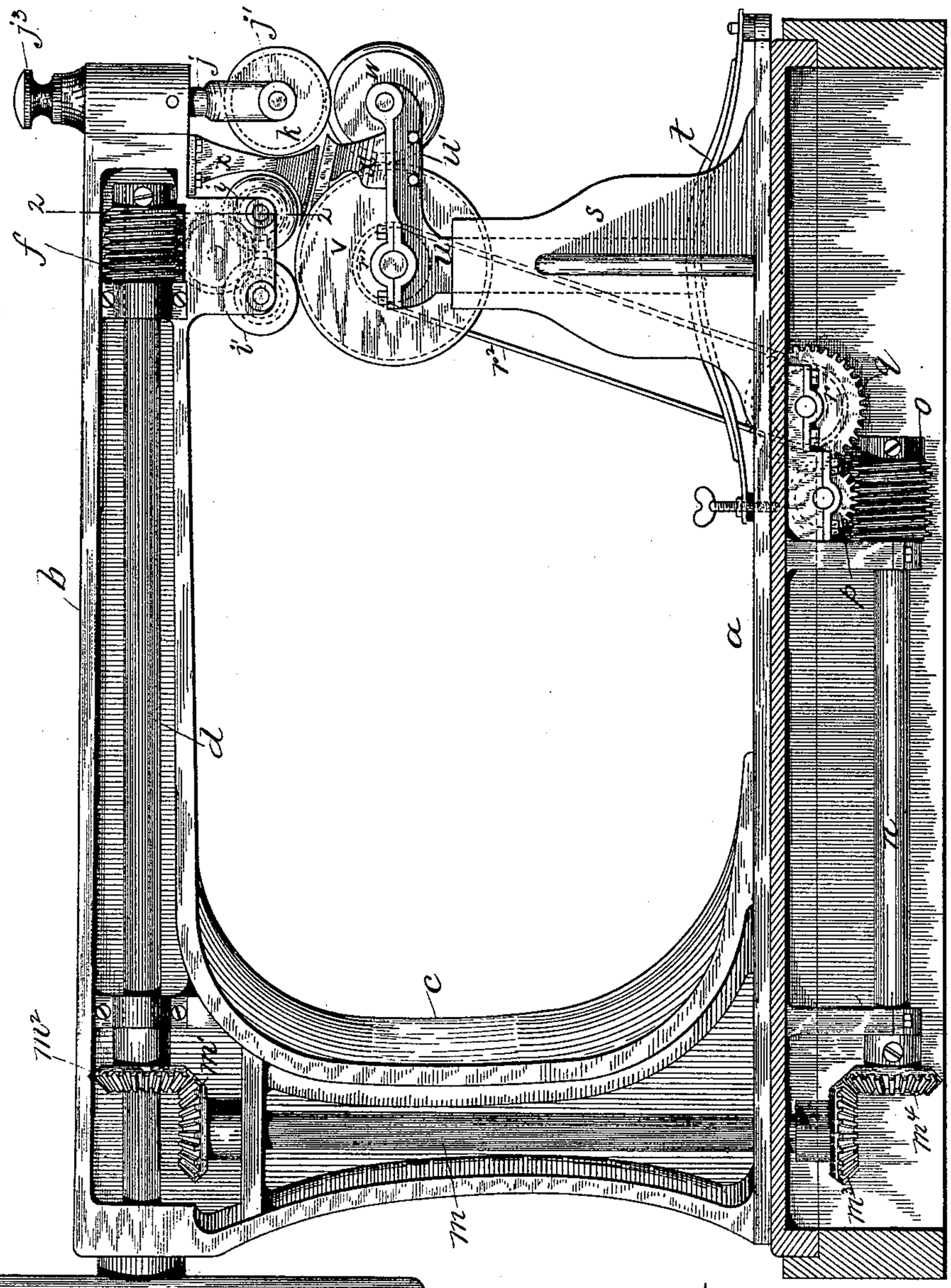

Fig. 1.

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(No Model.) 2 Sheets—Sheet 2.

C. W. HASELTON.

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Fig 4.

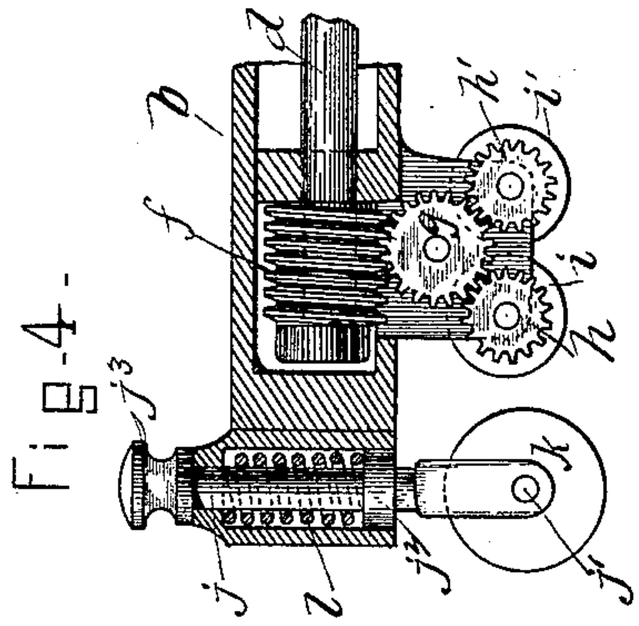

Fig 3

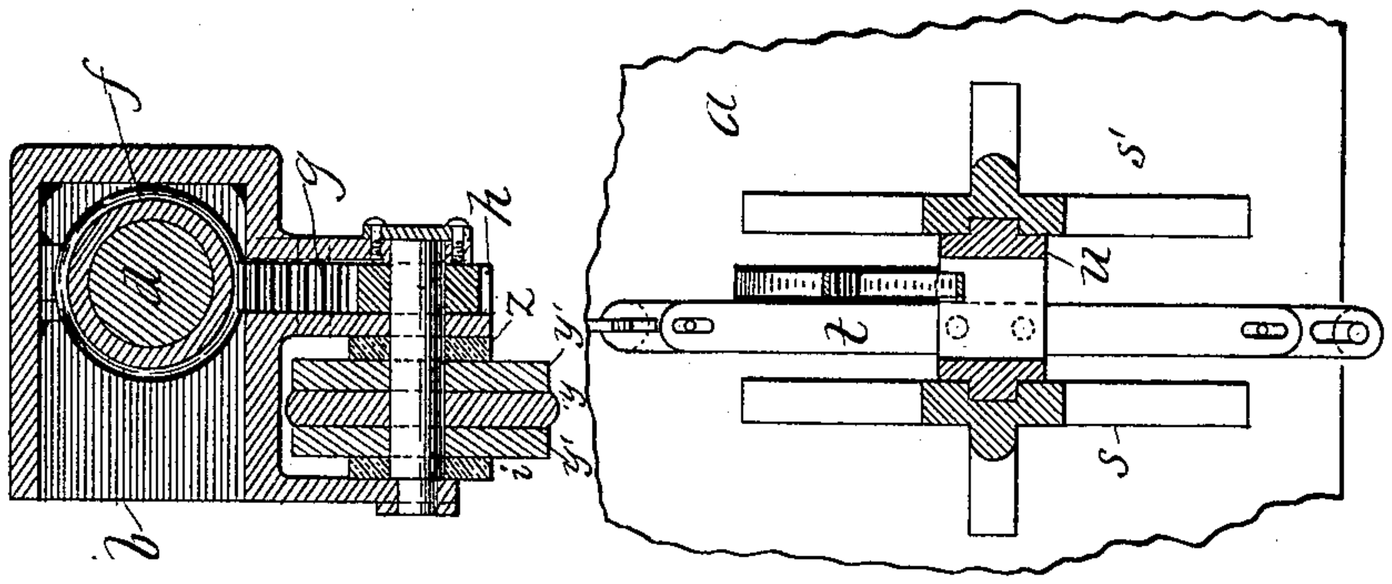

Fig 2.

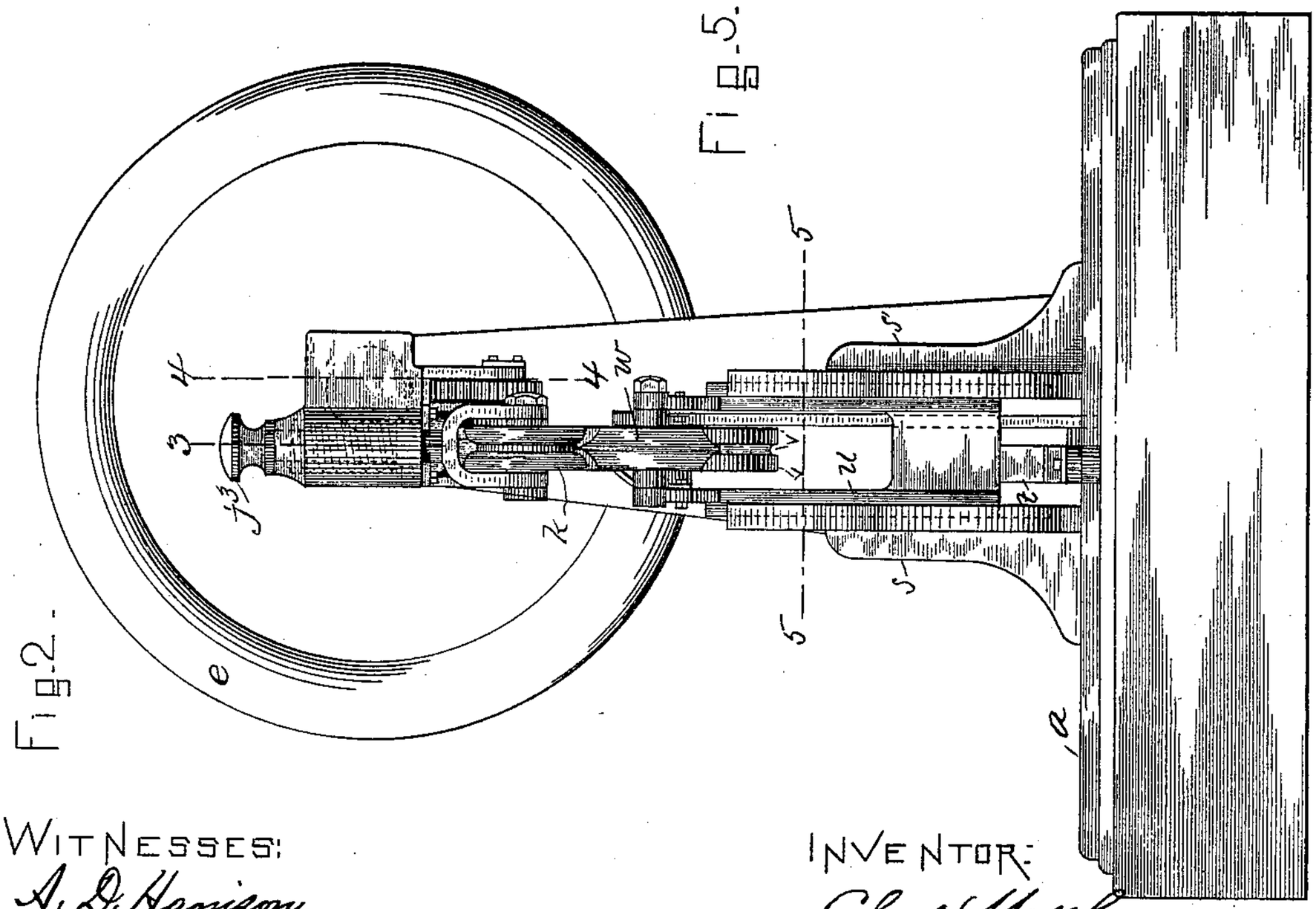

Fig 5.

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UNITED STATES PATENT OFFICE.

CHARLES W. HASELTON, OF HAVERHILL, MASSACHUSETTS.

SEAM-PRESSING MACHINE.

SPECIFICATION forming part of Letters Patent No. 366,582, dated July 12, 1887.

Application filed March 10, 1887. Serial No. 230,357. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. HASELTON, of Haverhill, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Seam-Pressing Machines, of which the following is a specification.

My invention relates to machines for pressing or rubbing the seams in leather-work.

In order to properly smooth and finish seams in the manufacture of boots and shoes or other articles made from leather, it has been proposed to substitute for the somewhat slow and tedious process of "rubbing" the seams by appliances of various characters a method consisting in passing the seamed article between two rotating rollers, so constructed and arranged that they will press down the projecting edges of and properly flatten and smooth the seam as it is passed therebetween. It has been common in the construction of machines designed to carry out this process to make them, so far as the frame for supporting the operative parts of the machine is concerned, in the form of an ordinary sewing-machine—that is, with a bed, an overhanging arm, and a standard or support for the overhanging arm. In this construction of machines the rollers have usually been arranged with their axles or journal-shafts in a position parallel with the overhanging arm and main driving-shaft therein and between the free end of the overhanging arm and the bed of the machine. While contrivances of this kind are desirable for many reasons, chief among which are that they may be easily and cheaply manufactured and are convenient in use, and while such machines, under certain circumstances and on certain classes of work, quite fully answer the purposes of their construction, they are open to a number of objections when used on goods of varying grade or character, or when the seam in the same grade of material varies in bulk or thickness—as, for example, when a cross-seam occurs on the line of the seam being operated upon—which event will cause a springing of the overhanging arm by which the upper roller is supported, in order to let the bulky portion in the seam pass between the two rollers, and so throw the upper roller out of line with its lower co-operating fellow and produce imperfect work. Again, it is difficult, if not quite impossible, to so arrange and adjust a single pair of rollers that by once passing a seam therebetween of any grade or character of goods thoroughly efficient and satisfactory smoothing or pressing of the same will be accomplished.

It is the purpose of my improvements to overcome these and other objections in machines of the character mentioned, as also in machines in which the pressing-rollers are arranged in line with the overhanging arm and with their axles or journal-shafts at right angles thereto, which improvements I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation of a machine embodying my invention. Fig. 2 is a front end elevation of the same. Fig. 3 is a section on the line 2 2 of Fig. 1. Fig. 4 is a sectional detail partially on the line 3 3 and partially on the line 4 4 of Fig. 2. Fig. 5 is a transverse section on the line 5 5 of Fig. 2.

Similar letters of reference indicate similar parts in all of the views.

a indicates the bed of the machine, *b* the overhanging arm, and *c* the standard supporting the same. *d* represents the main driving-shaft, suitably journaled in the overhanging arm and having the driving-pulley *e* attached to its rear end, whereby the machine may be operated. Said main shaft is provided on its forward end with a worm, *f*, adapted to engage and operate a worm-gear, *g*, the teeth of which in turn mesh with two small gear-wheels, *h h'*, as most clearly represented in Fig. 4. Said gear-wheels *g h h'* are journaled in suitable supports attached to or forming a part of the overhanging arm, and on the axles or journal-shafts of the wheels *h h'* (which axles extend at right angles to the main shaft and overhanging arm) are affixed two presser-rollers, *i i'*.

Extending vertically through a chamber formed in the forward end of overhanging arm *b* is a rod, *j*, between the arms of the bifurcated or forked lower end of which, on a pin *j'*, is journaled a roller, *k*. Said rod *j* is provided with a collar or offset, j^2, toward its lower end, at a point within the chamber formed in the overhanging arm, and has a nut or head, j^3,

screwed on its upper end and resting on the overhanging arm. A spiral spring, *l*, surrounds said rod *j* within the chamber aforesaid and bears with its upper end against the overhanging arm at the upper end of said chamber and at its lower end against collar j^2, the result of this construction being to hold roller *k* down with a yielding pressure.

m represents a vertical shaft arranged in standard *c* and provided on its upper end with a bevel-gear, *m'*, intermeshing with a like gear, m^2, on main shaft *d*, and having a bevel-gear, m^3, secured to its lower end, engaging with and adapted to operate a similar gear, m^4, on a revoluble horizontal shaft, *n*, journaled in suitable bearings underneath the bed of the machine. Said shaft *n* is provided on its forward end with a worm, *o*, engaging with a rotary worm-gear, *p*, which in turn engages a gear, *q*, on the journal-shaft of which is secured a pulley, *r*, (shown in dotted lines in Fig. 1.)

s s' represent two standards secured to the forward end of the bed *a*, between which and supported at its lower end on springs *t*, so as to yield vertically, is another standard, *u*, guided in any suitable manner, in whatever vertical movements it may have, by the standards *s s'*. On the upper end of standard *u* is journaled a roller, *v*, and to the journal-shaft or axle of said roller *v* is affixed a pulley, *r'*, (shown in dotted lines in Fig. 1,) which pulley is adapted to receive a belt, r^2, passing also over pulley *r*.

Standard *u* is provided with an arm, *u'*, extending forward therefrom, in the end of which arm is journaled a roller, *w*, as most clearly seen in Fig. 1.

The arrangement or relationship of the several rollers mentioned with respect to each other is such that roller *k* will be directly above or opposite roller *w* on the front of the machine, with their peripheries adapted to roll in, or nearly in, contact with each other, and roller *v*, very much larger in diameter than the other rollers, located in the rear of roller *w*, on a line with overhanging arm *b*, with rollers *h h'* arranged thereabove, so as to have their peripheries roll in contact, or nearly so, with the periphery of roller *v*.

x x' represent guides, respectively, bridging the space between rollers *h* and *k* and *v* and *w*, to support and guide the material being fed between the two sets of rollers.

By reference to Fig. 2 it will be seen that the periphery of roller *w* flares upward from each side, terminating in a quite narrow or sharp flange, and that the periphery of roller *k* is grooved, in form substantially the opposite of the form of the periphery of roller *w*.

Roller *i* is preferably made in three parts—that is, as three separate disks, *y y' y'*—the center one of which is rigidly fixed to the journal-shaft of said roller, while those *y' y'* at the sides are adapted to turn loosely thereon, or are held to turn with disk *y* only by the washers *z z* bearing laterally thereagainst, all as clearly shown in Fig. 3. It is also to be noted that disk *y* is somewhat larger in diameter than disks *y' y'*, and that its periphery is slightly rounded, corresponding to the groove *v'*, formed in roller *v*. Fig. 2.

Roller *i'* is preferably formed with a flat face or periphery, and is arranged to roll in contact, or nearly so, with roller *v*, while roller *i* is arranged at a slightly greater distance therefrom.

The rotation of rollers *i i' v* is so timed that their surface speed will be about equal.

In the operation of the machine the material is first passed between rollers *k* and *w*, by which operation the edges of the seam are spread and slightly pressed, so as to insure their presentation in proper position to the rollers *i v i'*. After the material leaves rollers *k w* it passes between guides *x x'*, which support and guide it between rollers *v i*, where the seam is further pressed. The provision made for the independent rotation of disks *y' y'* permits of any unevenness or difference in bulk of material on one side of the seam to pass without affecting the action of the roller on the other side. The projecting periphery of disk *y* and groove *v'* in roller *v* provides for pressing the material at the point of actual junction a little below the sides, so that when the material leaves said rollers and springs slightly backward toward its former position the two united pieces will lie substantially straight or flat, in which position it will pass between rollers *v* and *i'* and receive final pressing or smoothing down. The supporting devices for rollers *v w* being stepped on spring *t*, provision is made for said rollers to yield vertically to adapt them to the treatment of seams of varying thickness or bulk. The preliminary opening and pressing of the seam by the operation of rollers *w k*, to which the material is first fed, as aforesaid, is an important feature of my invention. In this way the seam will be thoroughly pressed, smoothed, and finished at a single operation; and should the overhanging arm be sprung upward by any bulky portion or part passing therebetween, the rollers will not be thrown out of vertical line with each other, and imperfect work from this cause is avoided.

It is obvious that the form and arrangement of the several parts of my invention may be varied, within the limits of mechanical construction, without departing from the nature or spirit of the invention.

Having thus described my invention, what I claim is—

1. In a seam-pressing machine, the combination, with a bed, of a set of two seam-pressing rollers, *k w*, yielding supports for both of said rollers, a second set of seam-pressing rollers, *v i i'*, the rollers *i i'* being arranged above the roller *v* and the latter being mounted on a yielding support, and a guide or guides, *x x'*, between said sets of rollers, all arranged, constructed, and operating substantially as set forth.

2. In a seam-pressing machine, the combination, with a bed and overhanging arm, of a set of two seam-pressing rollers, *w k*, a second set of seam-pressing rollers, *v i i'*, located in

the rear of those first mentioned, all of said rollers being arranged in line with said overhanging arm and with their axles or journal-shafts substantially at right angles thereto, and a guide or guides, *x x'*, between the two sets of rollers *w k* and *v i i'*, all constructed, arranged, and operating substantially as and for the purposes set forth.

3. In a seam-pressing machine, the combination, with a bed and overhanging arm, of a set of two seam-pressing rollers, *w k*, a second set of seam-pressing rollers, *v i i'*, located in the rear of those first mentioned, mechanism, substantially as described, for rotating said rollers *v i i'*, and a guide or guides, *x x'*, between the two sets of rollers, all constructed, arranged, and operating substantially as set forth.

4. In a seam-pressing machine, the combination, with the rollers *i i'* and their supports, of means for operating said rollers, consisting of a rotary shaft, *d*, provided with a worm, *f*, worm-gear *g*, and gear-wheels *h h'*, constructed and operating substantially as and for the purposes set forth.

5. In a seam-pressing machine, the combination, with a roller, *v*, and its support, of means for operating said roller, consisting of a rotary shaft, *n*, provided with worm *o*, worm-gear *p*, gear-wheel *q*, pulleys *r* and *r'*, and belt r^2, constructed and operating substantially as and for the purposes set forth.

6. In a seam-pressing machine, the combination, with a bed, of standards *s s'*, standard *u*, arranged between and vertically guided by standards *s s'*, spring *t*, upon which said standard *u* rests, and a seam-pressing roller supported by said standard *u*, constructed and operating substantially as and for the purposes set forth.

7. In a seam-pressing machine, the combination, with standard *u*, of a yielding support therefor, arm *u'*, connected to or forming a part of said standard, roller *v*, journaled on the upper end of said standard, and roller *w*, journaled on said arm, constructed and operating substantially as and for the purposes set forth.

8. In a seam-pressing machine, the combination, with roller *k*, of a yielding support therefor, consisting of an overhanging arm provided with a chamber, as set forth, a rod, *j*, provided with collar j^2 and head j^3, and spring *l*, surrounding said rod within the chamber of said overhanging arm, constructed and operating substantially as set forth.

9. A roller for seam-pressing machines, consisting of the three separate disks *y' y y'*, and the axle or journal-shaft for said roller, the central disk, *y*, being rigidly secured to said journal-shaft, and the two disks *y' y'* at the sides of the disk *y* being loose on said shaft, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 3d day of March, A. D. 1887.

CHARLES W. HASELTON.

Witnesses:

ARTHUR W. CROSSLEY,

C. F. BROWN.